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# Telephony.

THE AMERICAN TELEPHONE JOURNAL

*Comprising Telephony, American Telephone Journal, Sound Waves, Telephone Magazine and The Telephone*

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## MERRY CHRISTMAS!

Supervising arrangements for the defense of a traffic manager arrested as a result of a rid on a Chicago bucket shop must be an interesting diversion for the executives of the big wire combine.

No wonder those Western Union jobs were peddled all over the country.

It is not too late to inspect corner poles on important leads, if they still need it. It is cheaper to do it now than to wait until the day after a big storm.

The manager who has no overloaded open wire leads in town can sit down and figure out a plan for making a big growth next year.

Interest on idle plant capacity does not run up into as much money as extra labor on patchwork construction.

Make the railroads pay for their telephone service. They need another excuse for increasing rates.

### The Speculative Principle and Rate Making.

Securities of public utility corporations are steadily passing out of the speculative class. The modern theory which governs the ruling of public utility commissions, while tending to limit speculation in such securities, is gradually broadening the market for them among investors who look for something giving a safe and sure, reasonable return, rather than an opportunity for occasional extraordinary profits.

That this idea is meeting with favor among the most enlightened managers of public utility corporations, cannot be denied. Those managers who are best able to read the signs of the times have not only taken steps to place their own properties on the soundest possible basis, but are vigorously urging their associates to follow the path which assures a safe and certain moderate return, and steady growth of investment, rather than to expose themselves to the uncertainties which limit the market for a speculative security, and produce unfavorable public sentiment toward corporations in general.

Among the notable addresses which have recently been delivered along these lines, is that of Charles V. Weston, president of the Chicago South Side Elevated Railroad Co. who discussed street railway franchises before the American Electric Railway Association at its convention held October 13, 1910.

That the street railway industry passed through a formative stage not unlike that characterizing some telephone properties, is indicated by Mr. Weston's sentence:

"The service which those road builders rendered to the people at an exceedingly low cost, soon came to be not only a convenience, but a necessity of the first magnitude."

It is interesting to note the connection which Mr. Weston places between indulgence in the instinct for speculation, the limitation of franchise control, and the subject of rate making. His views on these subjects appeared in the following paragraphs from his paper:

"Referring specifically to the matter of speculation, it seems quite clear that if the street railways are to be recognized and treated as legitimate business enterprises, in which the owners and the people have a mutual and equally important interest, these enterprises must be permanently removed from the field of stock manipulation which has for its sole purpose the drawing out of the people's money in payment for that which does not represent intrinsic value.

"With this end in view, one of the first things to be considered and adopted in the construction of franchise grants, is the limiting of capitalization of the corporations to such sums as will represent only the actual cost of the physical property, plus reasonable allowance for discounts, interest, supervision, legal expenses and other legitimate charges during the creative period, and for additions to the physical property subsequent to the time of commencing actual operation. In other words, capital investment should represent only such expenditures as can be reconciled with accepted methods of accounting the various elements of cost in the creation and extension of the property. In any readjustment of existing properties on account of expiring franchises or for other reasons—in arriving at a valuation of the property for the purpose of fixing a base for the new capitalization—due consideration should be given to that part of the original investment represented by facilities which have been abandoned in the effort to satisfy public demand and in keeping pace with the development of the art. * * *

"The franchise, I believe, should fix the rate of dividend or profit to the investor, but it should not undertake to determine the rates to be charged for the service. The return on the investment should be in proportion to the hazards and should be liberal enough to attract capital. The rate charged for the service should be that which will yield a fixed return on the investment, the operating costs, maintenance and renewals, fixed charges, and provide for a fair sinking fund, unless there is provision for returning to its owners the capital investment at the termination of the grant by purchase by the city, or otherwise. It is my belief that the municipality should not share in the earnings of the public service corporations. The compensation which the people should receive for the priviliges granted, is adequate service at cost, plus the reasonable return on the investment."

**Dangerous Display in Directory Advertising.**

"No advertising in our directory" is the conservative motto which some managers hang up in the front office as a badge of merit.

None of these managers has been able to persuade us that he was not unnecessarily afraid of a good thing. Nor has any of them ever set forth to us any good reason why money paid for the use of advertising power which is legitimately created by the telephone company, is not as good to raise the wire chief's salary with as any other class of currency. But, one of these fine days, subscribers in some town are going to ask their companies to draw the line where it belongs, and stop pushing this advertising business too far.

The furnishing of the directory is as necessary a type of service to the subscriber as the furnishing of an operator to connect his wire to that of another person with whom he wishes to speak. And efficiency is as desirable in the former service as in the latter.

To place advertising in such positions in the subscribers' list pages of the directory as to make the advertising far more prominent than the subscribers' list is about on a par with the idea of covering up the telephone with a rubber bag to keep the nickel bright, and expecting the subscriber to remove it and put it back every time he talks.

When a company finds that space in its directory has value, and can be easily sold at a good price, there is a great temptation not only to make it pay for the book, but show the largest possible profit. But just the minute a company's ambition in this direction goes so far that it depreciates the value of the book as a directory to even the slightest degree, it is sacrificing the substance for the shadow. It is running the business of other people ahead of its own; and contributing in an intangible form to those elements of annoyance and dissatisfaction which end in the loss of a greater or less amount of public good will.

Advertising matter has a legitimate place in the telephone directory; but it must be so located and arranged as not to be more prominent than the list of subscribers.

**What the Voltmeter Can Do for Transmission.**

We always like to hear telephone men talk about transmission. In doing so they are getting at one of the vital and essential elements of the service they furnish. Transmission is "the meat of the cocoanut." It is the essence of the service the subscriber buys, and from his standpoint the only thing worth paying for. It is not enough to get a connection—one must have a "good talk."

The traffic man sometimes is so busy with his studies of peg counts and arrangement of operators' hours, the figuring of cost of service per line and per connection, and the countless efforts he must make to enforce supervision which will reduce the number of wrong number errors, delayed connections, and other harassing details, that he forgets all about transmission.

In the common battery exchange there is a sort of an automatic safeguard which makes it impossible to get absolutely insufferable results in the way of transmission. If the line insulation gets too low a lamp lights, and the operator reports a "permanent." It has to be cleared.

The magneto exchange has no automatic check to prevent the insulation from growing as low as it pleases, unless the wire chief or the operating department realizes the importance of keeping it up for the sake of getting good transmission.

The discussion of transmission passes naturally into that of testing as soon as one touches upon insulation. Readers of TELEPHONY may wonder why we are so much pleased when managers of small exchanges and the men who work in these exchanges report the work they are doing with testing instruments. It is not merely that they show that they are going about things in a right-headed, direct way, which makes for personal efficiency and self-respect as well as profits for the company—it is because they are taking steps toward that condition of plant efficiency which is seldom realized outside of the ideal plans of the engineer. But the wire chief who can show that he is man enough to beat out the forces of deterioration, and results of human carelessness, will be in charge of a system whose subscribers can TALK. They will be getting what they pay for, and so much the more ready to pay for what they get.

# The Memphis Telephone Company

**The Law of Location—The Pilgrim Father's Mistake—A Tennessee Company.**

**By J. C. Kelsey.**

Some time in 1620 a great accident happened.

The compass of the Mayflower went wrong.

The Puritan fathers (and mothers) were at the mercy of wind and wave.

History tells us that they landed at Plymouth Rock.

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They struck the most desolate spot in America.

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It was a real economic accident.

It set the United States back one hundred years.

Had they landed on the Pacific Coast, New England today would be a forest preserve.

---

Had they sailed up the Mississippi River, as they undoubtedly hoped to do, they would have been spared the horrors of starvation, witchcraft and other rigorous trials.

A warm climate would have softened their natures.

They would not have been forced to drive out the Quaker.

The persecution of the Quaker was only economic. They couldn't feed him.

---

Had they landed at Memphis, New York would be there.

The financial and commercial capital of America would be on the banks of the Mississippi—easily protected from foreign foes, and, much better—nearer the productive forces of nature.

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New York is too far from the productive center.

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If people quit buying stocks and bonds, New York would be practically deserted in six months.

It would be a port of entry only.

It costs too much to maintain New York.

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Once upon a time, Holland tried to raise the world's wheat.

Think of that little country—compared to the great wheat areas of Northwest Canada, Western America, Russia and Argentine!

It cost them too much to raise wheat in Holland.

So they quit;

And worked on what was profitable.

---

Memphis is the hardwood center of the world.

It saws and distributes 600,000 feet of hardwood lumber daily.

Directly about it are twenty billion feet of timber.

They have one hundred years of work in sight.

Already has Memphis bid for the Grand Rapids furniture business.

Why should a furniture factory be located anywhere except Memphis?

---

Holland quit raising wheat, because that occupation violated the *Lex Loci*, or Law of Location.

The Puritan, landing at Plymouth Rock, unconsciously violated the law of location.

But with persistence, he overcame terrible odds, and New England stands supreme today.

But the results are not worth the time and labor.

It takes centuries to rectify great economic errors.

This is why the South and West are just now coming into their own.

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Had Memphis been the landing place of the Pilgrim Fathers, today it might be the parent Bell headquarters.

The Cumberland (Bell) Telephone & Telegraph Co. might possibly have been the parent.

---

Those who live in the North, have no idea how savagely the telephone warfare is waged in this region.

Men can be Christian gentlemen, and not smoke, chew drink, nor swear, and conduct Sunday School classes.

They can even weep over the wrongs of the Jews in Russia.

---

But in the telephone business—these same men can be and are absolutely merciless. They can cheat, lie, burn, enjoin and commit manslaughter.

---

Mahomet had an idea he was a Christian, yet he cheerfully put all unbelievers to the sword.

Mahomet did this conscientiously.

---

The Cumberland officials are conscientious in their competition.

For competition in this district is war.

---

Sherman said "War is hell!"

"Hell" is a usual theme for Christian people.

Possibly this explains why the operation of an Independent telephone plant in this district is so full of excitement.

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As Memphis stands today as a transportation center—the river itself having the carrying capacity of 1,000 railways—it is to be naturally expected that an Independent telephone company has an opportunity.

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The Memphis Telephone Co. was a popular relief measure.

It was organized in 1901 by W. P. Curtis and associates.

They began business in October, 1902.

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During the process of construction, the Cumberland Bell people became very busy.

They built lines across the alleys.

They secured injunctions.

They advertised.

They claimed to have bought out the promoters.

---

Oh, how they love promoters!

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They did everything that they could to give publicity to the Memphis Telephone Co., and they succeeded.

---

The Memphis Telephone Co. has 3,345 subscribers.

The cash receipts for 1909 were

| | |
|---|---|
| Rentals | $112,758 |
| Toll and miscellaneous | 10,960 |
| Total | $123,718 |

The disbursements were as follows:

| | |
|---|---|
| Operating | $28,545 |
| Maintenance | 17,009 |
| General | 7,074 |
| Total | $52,628 |

Summing up:

| | |
|---|---|
| Income | $123,718 |
| Cost | 52,628 |
| Net for construction and reserves | 71,090 |
| Reconstruction and reserves | 13,380 |
| Net for interest | $ 57,710 |
| Interest | 32,547 |
| Net for stock | $ 25,163 |
| Dividends, 6 percent | 24,000 |
| Surplus | $ 1,163 |

The operating cost percentage is 42 percent.

On a telephone station basis, the performance of the Memphis Telephone Co. stands as follows:

| | |
|---|---|
| Income | $ 37.00 |
| Cost | 16.00 |
| Net for reserves and reconstruction | $ 21.00 |
| Reserves and reconstruction | 4.00 |
| Net for interest | $ 17.00 |
| Interest | 9.75 |
| Net for stock | $ 7.25 |
| Stock | 7.15 |
| Surplus | .10 |

You will note that this company not only takes care of its property comfortably, but sets aside a reasonable reserve of $4 per station year.

It pays bond interest, and also allows the stock a reasonable return.

The Bell company is making quite a little noise over its reserve growth at the rate of $4 per station.

One can not help but notice how much the Bell company preaches depreciation before Commissions, City Councils and Board of Control. But it never practices it.

The building of the Memphis Telephone Co. is quite typical of the city.

For 130,000 people, this city has an unusual skyscraper development.

Fine buildings overlooking the great river and the great Memphis bridge, paved streets, parks and boulevards, make Memphis exceptional.

One could not touch upon telephone matters without giving the Cumberland company some mention.

There is a little town called Collierville, thirty miles away from Memphis.

It had a pair of wires to the Cumberland plant at Memphis.

For this service the Bell magnates charged Collierville people $4.50 for business and $2.50 for residence.

Pretty good rates for a small town, too.

Under such conditions, having a free wire, it was natural to neglect such service.

The people petitioned for better service.

A representative called.

The petition was answered.

A new wire was connected.

Rates were increased to $7.50 for business and $3.50 for residences.

Some rates, too.

Not every one wanted Memphis.

Naturally Collierville was surprised.

And shocked, too.

So the overjoyed people of Collierville took out their telephones.

Today they have an Independent plant, connected with the Memphis Telephone Co., with ninety local subscribers.

The Cumberland offered to sell for $10,000.

This was quite a concession on its part, as it had three telephones left.

$3,333.33 per station is a record price!

The Collierville Home Co. now rents a circuit to Memphis at $30 a month, charges the original rates of $4.50 and $2.50, and everyone is contented.

At Booneville, the Cumberland once had 55.

It now has 8.

And Independents have 400!

Some lesson in duplication, too!

The officers of the Memphis Telephone Co. are:

H. A. Myers, president;
M. J. Richmond, vice-president;
A. B. Thresher, secretary;
Bennett Adams, treasurer.

The other directors are:

George A. Howard,
Ulie J. Howard,
Frank J. Tremble.

Mr. R. H. Polk is general manager.

He began service January 1, 1904.

Mr. Polk has seen thirty-one busy years in telephone service.

And not one of them has been wasted.

He was manager of the Savannah, Georgia, exchange for twenty years, starting as a boy with the Southern Bell Telephone Co.

Otis Myers is superintendent.

E. L. Fite is wire chief.

Chas. Wissmiller is store-keeper and
Miss Belle Boyd, cashier.

The Memphis Telephone Co. has had to contend with many difficulties, but a solvent property, earning $37 a station, has no fear of any competition.

When you enter the offices, you are struck by the rays of the mercury arc rectifier.

It is placed in the main office, and in this unique place, serves as an excellent advertisement, and a suggestion as well that the service of the Memphis Telephone *never* sleeps.

Memphis is proud;

And energetic.

One of her pamphlets says:

"Three things make a nation great—
1—Fertile soil,
2—Busy workshops,
3—Easy transportation.

---

"Four things make for industrial success:
1—Close proximity to raw material,
2—Favorable economic conditions,
3—Quick and easy distribution,
4—A buoyant selling market.

Memphis has them all.

---

Here you see the best example of the value of competition.

The great river is the railroads' greater leveler.

Without the competition of this flowing stream, the future hope of Memphis would be as a sounding brass and a tinkling cymbal.

---

MORAL: Competition is going to die hard.

# Microphonic Switchboard Lamps

**Tests Which Established the Ability of Signal Lamps to Introduce Noise in Cord Circuits.**

**By William S. Paca.**

*General Manager, Petroleum Telephone Co., Oil City, Pa.*

Peculiar sounds, of a more or less musical character, have been a feature of some of the connections made through the Petroleum Telephone Co.'s switchboard at Oil City. These have been heard by the writer at intervals during the past two or three years. As soon as the operators established a connection with the line of the called party, the unusual sounds would occur. They always ceased the instant the called party answered.

As the sounds were heard only at intervals, were not unpleasant, and did not in any way interfere with the service, they were not investigated, until several weeks ago. Then a serious attempt to locate the cause of what had been previously accepted merely as an interesting curiosity, led to the discovery that the noises were produced by certain switchboard lamps.

The investigation started at the desk telephone in the general manager's office, where the sounds had been heard. A number of tests were made for the purpose of locating some abnormal condition in the local telephone circuit. Nothing out of the ordinary was found. Experiments were made, attempting to produce, by means of manipulation at this telephone set, sounds similar to those which had been observed. Uniform failure gave reason to look for a cause beyond this telephone.

An answering cord was then brought into the experiments. The wire chief, who had been stationed at the switchboard for this purpose, made a number of tests with the writer, by plugging into the answering jack of the general manager's line. Nothing unusual was heard during these tests, and the next step was to connect the telephone through to another line—thus duplicating in full the conditions under which the noises had been previously heard. The first pair of cords gave no result. It was taken down and another pair was put up, between the same jacks; this pair gave way to a third, and the wire chief, who had been instructed to go through the whole position successively put up and took down a third of the cords without producing the tones which were expected. The next pair brought them in. This gave something definite to work on, and was a clue to the location of the noise-producing element.

The tones were very noticeable when the connection was established. They stopped when the operator's telephone was cut in, and reappeared when the operator's listening key was thrown up to the normal position again.

This test was accepted as placing the trouble, if such it might be called, in the cord circuit under test, and the relay of the calling cord was suspected. This suspicion proved to be incorrect, but the source of the tones was finally located in the supervisory lamp of the calling cord circuit.

It was found that this lamp, when in its normal position in the socket, and burning, would take up all the vibrations of the keyboard, and produce, as a result, musical tones in a telephone on the line connected with the answering cord.

By referring to the diagram of the cord circuit, and the lamp marked *C*, it may be seen that the lamp circuit is opened when the calling cord relay lifts, or when the operator's set is cut in. This explains why the tones were not heard after the called party answered, or when the operator was "listening in." The lamp gets tip battery when the calling plug is in a line jack.

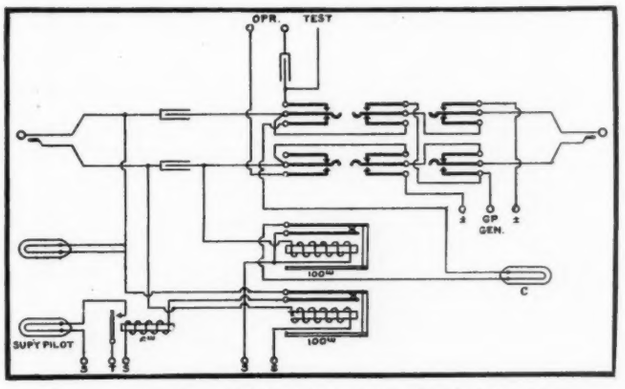



**Fig. 1. Circuit in Which Noise Was Created by Lamp.**

Having now removed the lamp of peculiar action from the keyboard, the writer proceeded to make tests to locate what he thought would prove to be a very loose contact, but much to his surprise, nothing of that nature was found, even when the lamp was examined under a strong magnifying glass.

The resistance of the lamp was found to be even slightly lower than the average of several other normal lamps, except when agitated. In the latter case, the needle of a galvanometer connected in circuit with the lamp and battery would swing in a manner similar to the effect produced by a granular carbon transmitter, if slightly agitated when under resistance test.

The lamp was then connected in series with an ordinary receiver, and a twenty-four volt battery (Fig. 2), which lighted the lamp to about normal illumination power.

In this test it was found that the slightest tap on the lamp, or even blowing on it, produced sounds which could

be heard plainly in the receiver. The sounds were not unlike those produced by a microphone transmitter, if connected and treated in a like manner.

A three-volt battery was substituted for the twenty-four volts, and the lamp was then even more sensitive.

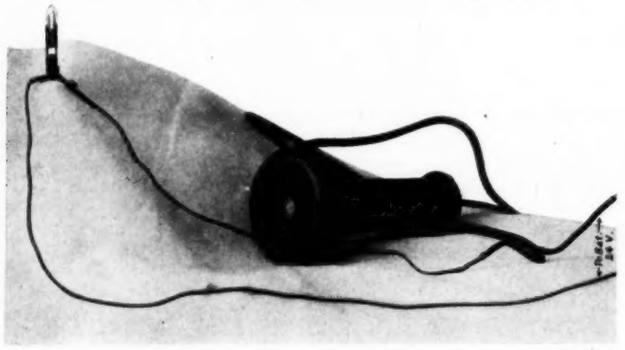


Fig. 2. Testing Microphonic Action of Switchboard Lamp.

The next test was to mount the lamp on an ordinary transmitter frame, with the glass pressed against a screw set in the center of an aluminum diaphragm (Fig. 3).

In this position the lamp transmitted various sounds, using either three or twenty-four volts, and occasionally a word or two could be transmitted intelligibly.

After making these experiments, the writer made tests of all the calling cord lamps on the keyboard, and found one other lamp that was just as sensitive as the one first experimented with, and three more which were capable of transmitting sounds, though less sensitive than the other two.

When one considers that these lamps have been in actual daily service for a considerable period, have been handled considerably since being removed from the keyboard, and that one of them was sent by mail to a friend for inspection and test, and that they still retain their microphonic qualities, it would seem hardly possible that a loose connection in the lamps could be the cause of the peculiar action.

If the lamps had bad connections, either in the leading-in wires, or where the filaments are attached to the leading-in wires, it would seem as if there would be some arcing at such points; or if there were a mechanical defect in the filament, that the filament would quickly burn off. It would also seem that any connection that would be so sensitive as to produce microphonic qualities in a

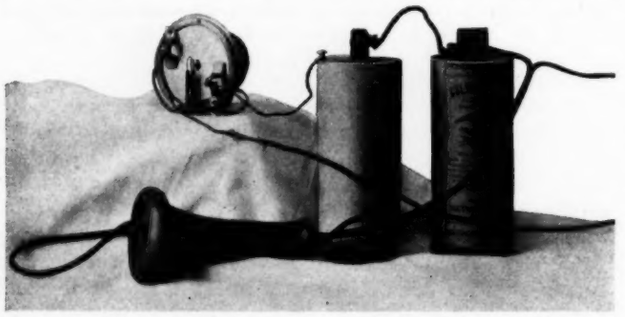


Fig. 2. A Lamp Replacing Ordinary Transmitter Capsule Reproduced Sounds.

lamp would also show some increased resistance when tested with a Wheatstone bridge.

These lamps have been very interesting to the writer, and he has endeavored to arrive at some positive conclusion as to the cause of their freakish action. He has about concluded that either the hydro-carbon paste, used for attaching the filaments to the leading-in wires, is responsible for the phenomena, or that the inter-molecular resistance of the filaments, which are probably made from Amyloid, has become variable as a result of their long use.

The writer would be glad to hear from any reader of TELEPHONY who may be interested in this phenomenon.

### Federal Officers Declare Western Union Telegraph Involved in Bucketshop Business—Raid in Chicago.

Acting under orders from Attorney General Wickersham, local Federal officials and plain clothes men raided this week the headquarters and six branches of the Capital Investment Co. in Chicago, the last big bucketshop combine in the country, said to do a business of $10,000,000 a year.

The attack involves not only the bucketshop, but also the Western Union Telegraph Co., which is charged with being an accomplice in its operations. A warrant was issued for William J. Lloyd, district traffic manager of the company, and the Federal officials intimate that when the matter is brought before the grand jury indictments will be found against other officers or directors, and against the telegraph company itself.

The Western Union already has been indicted forty-two times in the eastern Federal courts for co-operating with bucket shops, and the government officials state that, notwithstanding this, it furnished service to the Capital Investment Co. with full knowledge of its character.

A few days after the raid was made, a Federal Grand Jury was impaneled by Judge Landis, and the investigation of the Western Union's connection with the bucket shop business will be one of its most important duties. It is stated upon good authority that no effort will be made to indict the corporation as such, but the indictments, if any are found, will lie against the Western Union officials as individuals, as the government has seen the futility of proceeding against the corporation in the New York cases.

In this connection it is interesting to note that, in 1890, President Green, of the Western Union Company, testified before a United States Senate Committee in Washington that "46 per cent of the total business (of the Western Union Company), is purely speculative—stock jobbing, wheat deals in futures, cotton deals in futures, pool rooms, etc.; 34 per cent is legitimate trade; about 12 per cent of the business is press business and about 8 per cent of it is social."

Whether this proportion still prevails or not is not known. Probably, since the abolition of racing in a number of states, the "speculative" business has fallen off somewhat. It is, nevertheless, asserted that the Western Union has been clearing upwards of $5,000,000 a year from its wires leased to concerns of the character of the Capital Investment Co.

Should the government succeed in putting a stop to this portion of its activities and cut off this vast revenue from the Western Union company, the effect upon that corporation's annual surplus will be material, an effect which will be measurably felt by the American (Bell) Telephone & Telegraph Co., which controls the Western Union through a "substantial" stock interest.

### Asks $100,000 More for Omaha Independent.

Judge T. C. Munger, of the Federal Court, at Lincoln, Neb., has been asked by Lysle I. Abbott, receiver for the Independent Telephone Co., of Omaha, to authorize the sale of receiver's certificates to the amount of upwards of $100,000.

### Cement Merger Said to Be Pending.

It is understood that J. P. Morgan & Co. are behind a deal to merge two of the largest cement companies in the country, the Universal Portland and the Atlas Portland. No definite information has been given out by either company.

# New Member of Interstate Commission

**Appointment of Professor B. H. Meyer, of Wisconsin, to Federal Body of Great Importance to Telephone and Telegraph Interests Which Are Now Under Its Control—His Accomplishments as Member of Wisconsin Railroad Commission in Handling Public Utilities.**

The telephone industry as a whole is to be felicitated upon the appointment, just announced, of Professor Balthasar Henry Meyer as a member of the Interstate Commerce Commission. Professor Meyer was appointed a member of the Railroad Commission of Wisconsin by Governor LaFollette in 1905, at the time of the organization of that body. When the chairmanship became vacant in 1907 by the resignation of John Barnes, he became the chairman and has acted in that capacity continuously for three and one-half years. Professor Meyer assumed the direction of the work of the commission at the time when the commission's jurisdiction was extended over the rates and service of street and electric railways, electric, gas, telephone, water and central heating utilities under the most exhaustive legislative enactment of the kind ever attempted. The wise, far-sighted and courageous administration of the public utilities law has attracted the attention of the entire country. The people of Wisconsin are receiving a quality of public service from the utility corporations which was never before known, and the utility companies are beginning to realize a degree of prosperity which attends certainty and co-operation on the part of the public.

Professor Meyer's attitude on questions of public control of public utility companies may be gathered from the following extracts from addresses on the subject of the Wisconsin law:

Speaking before the National Municipal League, November 19, 1908, at Pittsburg, and discussing the effects of the new law in the year and a half in which it had been in operation, he said:

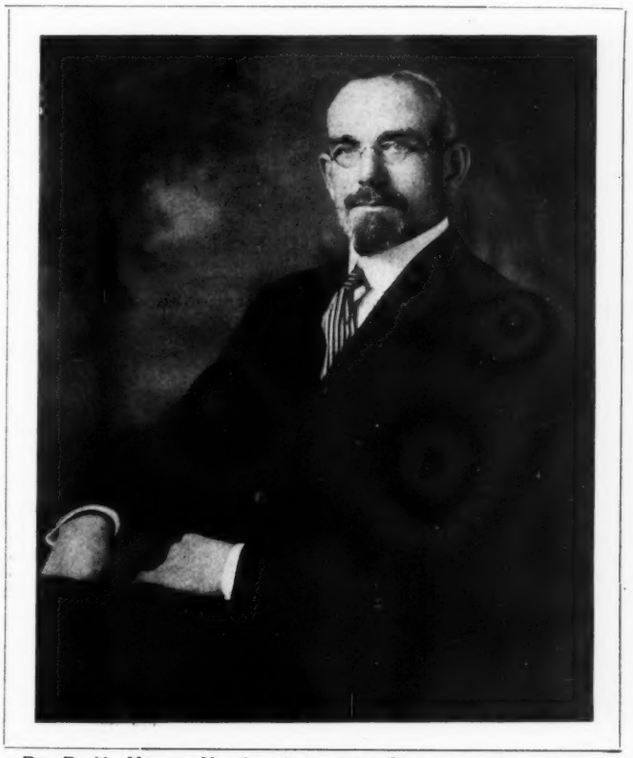
"The public utilities law raises the standard of morality through the eradication of the evil of discrimination, and the protection of a reasonable rate. To those who are quite familiar with past evils of discrimination in railway rates, the extent of the discrimination in the rates and service of utilities may be almost beyond comprehension. The whole state of Wisconsin was literally streaked and plastered with discrimination in the rates of utilities, and in all the rest of the country where the extent of such discrimination has not yet been determined, as it has been in Wisconsin, it is quite probable that discrimination similar in character and extent likewise exists. All rates, rules and regulations in effect in the state are on file with the commission. And these are the only rates and regulations which can be lawfully enforced and collected. Free and reduced rate service has been absolutely prohibited. Thousands of individuals had been receiving free and reduced rate service, and the eradication of all such rates cannot help but serve as a moral tonic and raise the level of public and private morality within the state as a whole."

In the same paper reference is made to the effect of the law upon investments, which is peculiarly interesting in view of the pending rate cases before the Interstate Commerce Commission. Professor Meyer said:

"All the effects of the law, taken collectively, are bound to place investments in public utility enterprises on a more stable foundation. The law works both ways. On the one hand, it protects the consumer against unjust and unreasonable rates and poor service, and on the other it protects the investor in his claim to a reasonable rate on the property which is devoted to public use. This legislation will probably remove public utility investments very greatly, if not entirely, from the field of speculation and place them in the class of conservative, certain and stable investments."

In an address before the Northwestern Electrical Association in annual convention at Milwaukee January 20 and 21, 1909, Professor Meyer said:

"Assuming that the character of the service and the price to be charged for it have been determined for the present, there must be solved that very important problem of the development of the industry which provides this service. In this development the consumer and the investor are equally interested, as well as the general public not directly connected with any particular plant, because the utilities constitute an important part of the industrial life of the state which affects every citizen within it."



Dr. B. H. Meyer, Member Interstate Commerce Commission.

Again in the same address he said:

"The success of the utilities law will have to be measured by the quality of the service rendered by the utilities, the price charged to the public for this service, and the development of the business which provides the service as an important factor in the industrial life of the state."

Of special significance to the telephone industry, which is now under the jurisdiction of the federal commission, is the following extract from the same address:

"I have been informed that there are electric plants which are bound by exclusive contracts to use only certain types of lamps for a series of years. I express no opinion with reference to the legal features of such a situation, but I do desire to say that in my judgment such contracts are not only against the best interests of the public, but also against the best interests of the future development of the

lighting business and, in the long run, of the business of any individual company in particular. Any rules and regulations of electric companies, which do not leave the widest latitude for the introduction of new types of lamps and other improved fixtures and appliances should be revised, keeping the interests of all the parties duly in view in their proper perspective. In the case of lamps, the ownership of them has a direct bearing upon the changes which can be made and the manner in which they should be made, but whatever the method of lamp renewal, and whatever the ownership, the way should be kept clear for improvements through the introduction of new types of lamps."

Professor Meyer was the member of the Wisconsin commission who gave particular attention to telephone matters. In questions of telephone rates and service he is probably better posted than any public official occupying a similar position anywhere in the country. Some of the important telephone matters handled by the commission under his supervision and active direction were the following: Prescribing uniform system of accounting, critical analysis of service in Milwaukee, investigation of sleet storm damage and sleet area, Marinette telephone rate case, determination and abolishment of free and reduced rate telephone service amounting to $30,000 a year, and the inauguration of service tests in large and small cities which have resulted in vastly improved service.

Mr. Meyer is strongly committed to the cost of service theory of rate-making which has been so extensively applied to public services by the Wisconsin commission. He was a member of the commission when the famous passenger fare investigation was conducted. In this case the commission made a complete separation of the expenses of the freight and passenger departments and found that on the basis of actual costs a two-and-a-half-cent fare, with 1,000-mile family books at $20, would be reasonable. The cost-of-service theory has been applied to the adjustment of freight schedules, and in the determination of reasonable rates for gas, electric, water and telephone utilities it has been used to the exclusion of all others. Professor Meyer's promotion to the Interstate Commerce Commission means progress in the development of a scientific standard of freight rate-making. It assures telephone utilities a respectful and appreciative hearing on the administrative features of the new law as applied to them.

### Testimony Before Referee Begun in Nebraska Action to Oust Nebraska (Bell) Telephone Co. from State.

Judge E. B. Good, appointed by the Nebraska Supreme Court as referee to hear testimony in the ouster suit brought against the Nebraska Bell company by the state, has begun his hearings in the case. The action was based upon the purchase by the Bell of three Independent telephone plants in Nebraska.

A. W. Field, of Lincoln, and Deputy Attorney General Grant Martin represented the state. Byron Clark represented the Plattsmouth Telephone Co., and Judge Paul Jessen, of Nebraska City, represented the Nebraska City company. E. M. Morsman was present on behalf of the Nebraska Bell. The Plattsmouth, the Nebraska City and the Papillion companies are the former Independent organizations involved in the suit.

A temporary injunction preventing the Bell from completing the deals and taking these properties over was secured some time ago. The state is now trying to have the injunction made permanent and asks also that the Bell company be ousted from the state.

### Ohio Company Increases Stock.

The Star Telephone Company, of Ashland, Ohio, has increased its capital stock from $100,000 to $150,000.

### Supreme Court Decides Has No Jurisdiction in Rate Suit of Memphis vs. Cumberland Bell.

In the decision of the Supreme Court of the United States in the case of the City of Memphis vs. the Cumberland Telephone & Telegraph Co. the telephone company has obtained a distinct advantage. The court decided that it has no jurisdiction in the case. This allows the judgment of the lower court to stand, unless it is set aside by further proceedings. The decision was by a divided court, Justices White, McKenna and Hughes dissenting.

The facts in the case are that in Semptember, 1907, the city of Memphis passed an ordinance fixing maximum telephone rates $5.50 instead of $7.50 per month for business telephones, and $2.50 instead of $3.50 per month for residence telephones. The telephone company filed its bill to enjoin the enforcement of the ordinance. The relief asked for was based upon substantially the following grounds:

"1. That as the legislature of Tennessee had conferred no power upon the city of Memphis to fix rates, the city was wholly lacking in authority to pass the ordinance, and the same was therefore void.

"2. That the ordinance was void 'because it is unjust, inequitable and unreasonable, in that it fixes the maximum tariff or rate of charges beyond which your orator is forbidden to go, under severe penalties, which is so low that your orator could not operate its exchange without actual loss of money to it; and, indeed, is in truth and effect confiscatory, in that it totally destroys the value of your orator's plant in the city of Memphis for profitable use as a telephone exchange.'"

The paragraph of the bill containing the foregoing concluded as follows: "Your orator further states that said ordinance was passed by the legislative council of said city, not only without making any investigation whatever, but in ignorance of what was a reasonable rate (assuming that it had the power to deal with the subject at all, which is denied) and without the least regard to the vested rights of your orator, or to equity and justice, and it is, for the reasons set forth in this paragraph, null and void."

"3. That the ordinance was moreover void because it was unequal and discriminatory in consequence of a proviso to the first section exempting from its operation telephone companies whose rates were fixed by contract with the city of Memphis."

A final decree was awarded adjudging the ordinance to be null and void, and permanently enjoining its enforcement. The court assumed that the city of Memphis, "notwithstanding any contract it may have with the complainant, has the right and power to fix the rates which the latter may charge its customers in Memphis," and considered the constitutional limitations to which the exertion of that power was subjected. It decided that it could not unreasonably exert this right, and that in the present case it had done so, which amounted to confiscation.

The judge himself having raised the constitutional question of the limitations on the city, the city, in appealing the case, took it directly to the Supreme Court under section 5 of the judiciary act of 1891, assuming that that court would have jurisdiction on account of the constitutional question which had been raised. The telephone company, however, raised the point that the city had not in the lower court asked the protection of the constitution of the United States, and that, although the judge had of his own motion brought up the question, the company could not bring it up in the Supreme Court. This, it was urged, left the Supreme Court without jurisdiction in the case, and in this the court concurred. A dissenting opinion was expressed by Justices White, McKenna and Hughes, who held that the court did have jurisdiction to consider the case on its merits.

# Kentucky Against Universal Connection

**State Association in Convention at Louisville Adopts Resolution Condemning Interconnection with Bell and Instructs Delegates to Oppose It—Clearing House Committee Appointed to Work Out Plan Similar to That of Michigan Association.**

Leland Hume will have a busy life ahead.

This gentleman is said to freely admit that he knows more about the telephone business in one day than Mr. Vail will ever learn.

The Cumberland Telephone Co. has been a successful one.

It is one of the few Bell companies that is really making more money than it needs.

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Kentucky has started out to set the pace in a race that will eventually make the Cumberland Telephone enter the lists of failures—or allow local ownership the profits it demands.

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The meeting opened at the Galt House, with 240 in attendance.

A more earnest convention was never held.

There was not the enthusiasm of the man who did not intend to do anything.

Each man felt that the time had arrived to make plans for the preservation and improvement of Independent telephone conditions in Kentucky.

E. W. Coleman in his characteristic way opened the meeting.

He told of the work ahead and of the necessity of 460 companies organizing on a definite basis.

The keynote of his address was that no man could accomplish anything alone.

How the Bell program had shifted from the purchase of small plants to the control of large central plants.

Lastly, the Bell Manufacturing Company had made the last desperate dash in trying to drive out Independent manufacturers.

Mr. Vivian of Grand Rapids then read the pivotal paper of the convention.

It was discussed vigorously by Messrs. Moore, Bastin, Clark, Wilson and others.

The report of the committee was read and adopted.

Vigorous discussion followed, led by Messrs. Smith, Chandler, Duncan, Murray, Lee, Griffitts, Wilson, Buckner, Metcalfe, and Moore.

A roll call vote was unanimous for a clearing house.

Walter Uhl was not present, and a discussion of Universal Physical Connection followed.

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Speeches by Murray, Thomas, Lorien, Griffitts, and others proved Mr. Coleman's assertion that an orator could be shaken out of every bush in Kentucky.

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A resolution followed:

"That the convention assembled go on record against the principles of universal connection as laid down by the president of the National Association, and instruct delegates to oppose such principles."

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A vaudeville show entertained the delegates Tuesday eve.

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The Wednesday session was taken up by Mr. Shanklin of Lexington, who spoke on the "Relation of the Local to a Toll Company."

He showed the necessity of the Golden Rule. The need of a Clearing House, etc.

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Discussions by Lewis, McMullen, Smith and others followed.

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J. C. Kelsey then read a paper, "Telephone Securities as Affected by Proper Organization."

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Mr. Buckner of Mt. Sterling read a very interesting paper on "Preservation of Cross-arms."

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The Nominating Committee brought in the following names of officers, which were unanimously ratified by the convention:

President, E. M. Coleman, Louisville.
Vice-president, Geo. S. Shanklin, Lexington.
Secretary, L. C. Griffitts, Louisville.
Treasurer, W. J. Thomas, Shelbyville.

Executive Committee.

P. S. Pogue, Louisville.
E. V. Murray, Campbellsville.
J. W. Chambers, Winchester.
Martin Taylor, Lexington.
Charles Chandler.

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The Clearing House Committee, appointed by President Coleman, has the following members:

Geo. S. Shanklin, Lexington.
D. H. French, La Grange.
W. J. Thomas, Shelbyville.
S. M. Heller, Louisville.
G. B. Winslow, Carrollton.

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A banquet was held at 8 p. m. at the Galt House.

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This convention was a model of dispatch.

No time was wasted, and more work was done in two days than in any convention held in the last few years.

Kentuckians are a loyal people.

Once aroused they will stand out to a man.

The 1910 convention has done more for Kentucky people than they realize.

The days of Cumberland tyranny are over.

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### Inter-State of Illinois Continuing Independent Under Receivers.

News of the turn affairs have taken in regard to the Inter-State Telephone & Telegraph Co., the famous Illinois corporation which so long supplied a battling ground for "Hank" Evans and his associates, is distinctly cheering to neighboring Independents. Receivers Fred A. Dolph of Aurora, and W. C. Niblack of the Chicago Title & Trust Co., are adopting a thoroughly constructive policy in the handling of the company's finances and operations, and there is reason to believe that they will make a far better showing than was considered possible during the old days of dissension.

A somewhat sensational element has been added to the situation by the filing of a bill in the U. S. Circuit Court charging that H. H. Evans, E. R. Conklin and S. H. Case, former officers of the telephone company, should repay into

the company's treasury $1,231,000, abstracted in the form of excessive profits paid to the Conklin Construction Co., money paid Evans on a note, funds realized for the Investment Registry Co., Ltd., London, and never turned over to the company, etc.

Although it is generally understood that the Bell telephone company now indirectly controls a large amount of bonds purchased from Evans and others at a big advance over market price, neither Evans nor the Bell company seems to be in a position to be excessively cheerful over the present results of the deal.

**Director of A. T. & T. States that Parent Stock and Subsidiary Bonds Will Hereafter Finance Bell System.**

A Boston director of the American (Bell) Telephone & Telegraph Co. is quoted as saying that future financing of the company will probably be confined to two methods, issuance of the parent company's stock when the condition of the stock market is such that valuable "rights" can be offered stockholders, or issuance of the bonds of the subsidiary companies.

Evidence of this is found in the announcement made this week that, within a few days, there will be offered at a discount not yet fixed an issue of $10,000,000 first mortgage 5 per cent bonds of the Southern Bell Telephone & Telegraph Co. These bonds have been awarded to a syndicate composed of Kidder, Peabody & Co., N. W. Harris & Co. and the Harris Trust & Savings Bank, of Chicago.

The bonds will be dated January 1, 1911, maturing January 1, 1941, with an option of redemption at 105 and interest on and after January 1, 1916.

The Southern Bell company has no other bond obligations. Of the $30,000,000 authorized stock $21,400,000 is outstanding, and of this amount it is understood the American Telephone & Telegraph Co. owns $21,394,300.

It is stated that the A. T. & T. Co. now owns 7 per cent of the combined $360,000,000 capital stock of the subsidiary concerns, as against 55 per cent held in 1905. The parent company is constantly bringing about closer relations with the underlying corporations and its stock holdings are increasing proportionately.

Up to four or five years ago the Bell subsidiaries were working steadily to reduce their bonded indebtedness through the issuance of large amounts of stock, of which the parent company took its share. Hereafter this plan is apparently to be abandoned.

**New York Bell Cuts Rates in New Jersey.**

Reductions of charges for regular contract subscribers have been announced by the New York (Bell) Telephone Co. for New Jersey. In the Newark area the present rate of $48 for 600 local messages will be cut down to $42, and the two-party-line rate of $42 will be reduced to $36. There will be corresponding reductions for a larger number of messages throughout each schedule. Proportionate cuts are to be made in other cities and towns in the state.

It is also announced that, beginning in January, the company will increase the pay of its operators and shorten its working hours.

**Nebraska Independent Convention, February 7-8.**

Mr. Charles H. Hood, secretary and treasurer of the Independent Telephone System of Nebraska, announces that, at a recent meeting of the board of directors, it was decided to hold the annual convention on February 7 and 8, 1911, at Lincoln. A committee on arrangements was appointed, with power to appoint sub-committees. This committee consists of C. J. Garlow, Columbus; W. H. Caman, Beatrice; C. W. Bartlett, Fairbury; R. E. Mattison, Omaha, and Charles H. Hood, Lincoln. Definite arrangements will be announced later.

**California Supreme Court Not Unanimous in Granting Glass, Bell Official, New Trial on Bribery Charge.**

While the California Supreme Court has reversed the judgment of the Superior Court in the case of Louis Glass, vice-president and general manager of the Pacific Bell, accused of bribing the supervisors of San Francisco to refuse a franchise to the Independent company, and has remanded the case for new trial, the court was far from unanimous in the decision. In a dissenting opinion, signed by Justices Shaw and Angellotti, the technicalities upon which the ruling decision was based are held to be insufficient to warrant the granting of a new trial and the reversal of the lower court. The situation at the time of the alleged bribery is effectively summed up, in part, as follows:

> With regard to the Oakland franchise, a mass of evidence was given concerning the previous course of the Pacific States Telephone & Telegraph Co. toward the rival concern. Large quasi-public corporations operating over an entire state are more like governmental bodies than like natural persons. They act in accordance with fixed, permanent rules and orders, akin to laws. Their methods cannot be judged by the same standards as those of individuals.
>
> The evidence as to the Oakland matters showed a settled policy and design by said company to vigorously oppose the competing company at all points, justifying an inference that there were rules and orders to that effect which its officers were expected to follow.
>
> Glass must have been aware of this, and it would naturally incite him to more than ordinary zeal in endeavoring to stamp out the beginnings of competition in his own company's most valuable territory, the city of San Francisco. It had a direct legal tendency to prove the motive to bribe the supervisors, if he was willing to resort to such practices, and it was admissible for that purpose. The fact that such motive would be obvious would not render proof of it incompetent.

Justice Sloss also filed a separate opinion, in which he said: "I concur in the judgment of reversal upon the ground solely that the court erred in admitting testimony concerning the Oakland transactions in 1902." As indicating how that testimony might have prejudiced a jury, he says: "Even though his (Glass) conduct with regard to the Oakland franchise did not constitute a crime, it included acts which might well be regarded as discreditable. . . . On each of the other points discussed in the opinion of Justice Henshaw, I agree with the dissenting members of the court that no prejudicial error was committed."

It is doubtful whether Glass will again be brought to trial under this indictment. The first trial was held nearly four years ago and resulted in a disagreement. On the second he was convicted and sentenced to five years in prison.

**Nebraska Bell Lowers Rates to Meet Competition.**

The Nebraska Railroad Commission has granted permission to the Nebraska (Bell) Telephone Co. to lower its rural rate to $1.25 a month where more than ten and less than sixteen instruments are on a line. The order followed a complaint against the Fairbury (Independent) Telephone Co., which, it was charged, failed to maintain its scheduled rates of $1.50 where less than ten subscribers were on a line and $1.25 in the case of more than ten. The Bell formerly had a flat rate of $1.50.

**Rocky Mountain Bell to be Absorbed, Says Rumor.**

A dispatch from Boston states that a rumor prevails on the street there to the effect that the Rocky Mountain Bell Telephone Co. is soon to be absorbed by the parent company, the A. T. & T., or one of its subsidiaries. The Rocky Mountain company has paid no dividends for some years and its affairs are regarded as being in an exceedingly unsatisfactory condition.

# National Corporation Reported to Be Sound

**Receivers of Wheeling Company File Experts' Report with Court Showing Six Months' Net Surplus of Over $100,000, or More Than 24 Percent of Gross, After Expenses, Maintenance and Fixed Charges Are Cared For—Operating Revenue 56.4 Percent of Gross.**

William C. Handlan and James W. Ewing, receivers for the National Telephone Corporation, of Wheeling, W. Va., have filed with the United States Court there a report covering the operations of the company for the six months ended June 30, 1910. This report, prepared by a firm of expert accountants, shows that the corporation is in an excellent condition financially, and bears out the statement repeatedly made by those conversant with the affairs of this principal subsidiary of the Continental Telephone & Telegraph Company that the National, if left to itself, would at once work out its financial salvation.

Under the administration of the receivers, and freed from any obligations other than its own, the company has achieved most gratifying results. Gross income for the first half of the current year was $418,151. Expenses and taxes aggregated $235,933. Net earnings, therefore, were $182,218. The company consumed for operation and maintenance 56.4 per cent of its gross. Net surplus, after payment of all fixed charges and the setting aside of a reserve to cover uncollectible accounts, was $100,955, over 24 per cent of gross.

The balance sheet shows total assets of $15,793,739. A deficit of $175,040 is recorded, largely made up of dividends declared and unpaid and of officers' salaries. This is accounted for by the fact that no dividends from the subsidiary companies of the National Telephone Corporation have been included, none having been declared and paid, although earned. It is stated that, up to the time the receivers were appointed, the corporation had not caused its subsidiary companies to declare dividends, and that there is at this time an accumulation in the treasuries of these companies of upwards of $400,000.

It is pointed out by Mr. Handlan that the allowance made by the accountants of 2 per cent of gross earnings to cover uncollectible accounts is larger than necessary. "The company's experience has been," said Mr. Handlan, "that uncollectible accounts do not exceed one half of 1 per cent."

"On the whole I am very much gratified at the showing made. The report is complete and comprehensive and proves the condition of the National Telephone Corporation to be what has always been claimed for it."

The companies included in the report of the accountants are the following: Pittsburg & Allegheny Telephone Co., National Telephone Company of West Virginia, Consolidated Telephone Co., West Virginia Western Telephone Co., National Telephone Company of Ohio, National Telephone Company of Pennsylvania, National Telephone Company of Monongalia County, Beeghley Telephone Co., The Woodsfield Telephone Co., The Stafford & Marietta Telephone Co., Pittsburg & Wheeling Telephone Co., Weston Central Telephone Co., Union Telephone Co., and Chartiers Telephone Co.

The Belmont Telephone Co. is not included in the consolidated report for the reason that that company is not directly owned by the National corporation, but is owned by the National Telephone Company of Ohio, which is, in turn, owned by the National corporation. The Marietta Telephone Co. is also omitted, being owned by the West Virginia Western, which latter is owned by the National.

The condensed statement of income and expenses, as filed with the court by the receivers, is as follows:

REVENUE ACCOUNT.
Six months ended June 30, 1910.

| | |
|---|---|
| **Gross Earnings** | |
| Exchange rentals | $366,489.57 |
| Toll and telegraph service | 74,749.00 |
| Miscellaneous | 1,369.32 |
| Total | $442,607.89 |
| Less: | |
| Other companies charges for toll and telegraph service | 12,996.67 |
| Rebates and allowances | 11,459.75 |
| Total | $ 24,456.42 |
| Remainder—gross earnings | 418,151.47 |
| **Expenses.** | |
| Operation | $ 67,013.96 |
| Maintenance | 90,196.75 |
| General | 67,321.35 |
| Total | $224,532.07 |
| Taxes | 11,400.79 |
| Total expenses and taxes | 235,932.86 |
| Net earnings | 182,218.61 |
| Other income: | |
| Interest on notes and accounts receivable | 4,231.17 |
| Interest and dividends on bonds and stocks owned | 6,946.00 |
| Discount on purchases | 590.37 |
| Interest on deposits | 925.08 |
| Miscellaneous | 950.97 |
| Total | $ 13,643.59 |
| Gross income | 195,862.20 |
| **Deductions from Income:** | |
| Interest on bonds | $ 68,680.00 |
| Interest on notes payable | 14,622.70 |
| Interest on accounts payable | 3,336.33 |
| Reserved for uncollectable accounts—2 per cent of gross earnings | 8,267.97 |
| Total | 94,907.00 |
| Net income for the period | $100,955.20 |

Now that the National's condition has been thoroughly gone into by expert accountants and the result has proven so satisfactory, it is believed that any uneasiness which may have existed among the security holders will be dispelled and that the reorganization will be speedily and effectively accomplished.

**Personnel of Continental Reorganization Committee.**

The committee which was appointed recently to reorganize the affairs of the Continental Telephone & Telegraph Co. consists of the following: R. C. Dalzell and J. N. Vance, of Wheeling; J. W. Garland, of Pittsburg, and Brayton S. Ives, of New York. All, it is understood, are heavy stockholders in the company.

**Bell of Canada Declares Regular Dividend.**

The Bell Telephone Company of Canada has declared a regular quarterly dividend of 2 per cent, payable Jan. 14 to stock of record Dec. 23.

**Bills of Exception Filed in Cumberland (Bell) Louisville Rate Case—To Come Up January 4.**

Final bills of exception have been filed at Louisville by both the counsel for the Cumberland (Bell) Telephone & Telegraph Company and by City Attorney Clayton B. Blakey in regard to the findings of Special Master Henry Burnett. The master, after a year's investigation of the books of the Cumberland company, reported about a month ago that the Cumberland earnings are extraordinarily large and the company's rates exorbitant. He strongly recommended that the Cumberland charges be reduced materially in accordance with the ordinance which was prepared during Mayor Grinstead's administration and which was alleged to be discriminatory by the Cumberland company. According to Mr. Burnett, the reduced rates fixed by the City Council are not unreasonable and will allow a justifiable dividend of about 8 per cent.

The Cumberland bill of exceptions to the Burnett findings declares that the cost of the present Cumberland plant was $1,701,000, instead of $1,381,000, the cost arrived at by Mr. Burnett. The bill insists that the Cumberland property cost the former amount and urges that the property should pay a 10 per cent profit at least on this valuation. These two contentions form the main part of the Cumberland argument.

The city's bill took exception to a few of the minor findings of Mr. Burnett, conceding a number of points to the telephone company for the sake of expediting the case.

Both bills will be considered on January 4 by Judge Walter Evans of the United States Court.

**Court Refuses to Enjoin Louisville Home from Installing Party Lines in Suit of City.**

Judge Samuel B. Kirby has overruled the motion of City Attorney Clayton B. Blakey that a temporary injunction be granted restraining the Louisville Home Telephone Company from furnishing party line service to its patrons.

It was alleged by Attorney Blakey that the Home company is now operating party lines in Louisville in direct violation of the provisions of its city franchise, but Judge Kirby stated in his opinion that there is grave doubt as to whether the party line service now being furnished by the Home company to its subscribers is the kind of party line service that Attorney Blakey alleges is forbidden in the Home's city franchise.

Judge Kirby further announced that the demurrer, filed by Mr. Blakey in opposition to the petition of the Home company, is now overruled and the case must proceed for final determination upon its own merits.

**Increasing Scope of Telegraph-Telephone Field.**

The Western Union Telegraph Co., acting with the Bell telephone companies, is increasing the scope of its combined telegraph and telephone operations, along the lines tried out in some of the larger cities of the East some months ago. This involves the distribution and collection of telegrams by the telephone.

**Validity of Pacific Bell's Franchise in Tacoma Now Rests with Federal Court—Decision Soon.**

Final arguments on the validity of the Pacific (Bell) Telephone & Telegraph Company's Tacoma franchises have been heard by Judge George Donworth in the Federal Court. A decision determining whether the company's right to do business in Tacoma expired on March 24, 1909, or whether it will not expire until 1915, is expected by counsel with the next few weeks.

It is a year now since the city attorney's office brought suit against the telephone company. It is the contention of the city that under the provision of paragraph 7 of ordinance 21 passed by the city council March 24, 1884, the Sunset company's franchise expired twenty-five years from date. The Sunset is now owned by the Pacific Bell. Counsel for the corporation contends that under an act of the council in 1900, the franchise was extended six years, which would bring the expiration date to 1915.

In arguing the case the city attorney contended that the telephone company had not only evaded the word, but the spirit of the amended franchise in erecting telephone poles and stringing wires in the alleys between A and K streets and between Prospect avenue and South 27th street. The city attorney asserted that the amended franchise framed by counsel for the telephone company and presented to the city council for passage provided that wires within the boundaries mentioned should be carried underground.

Maj. Bates, for the telephone company, contended that the poles had been removed save in cases where it was necessary to leave them to carry power wires owned by the city or by the Tacoma Railway & Power Company. He stated that the poles would be removed whenever the city or street car company made other provision for carrying such wires. He said that in agreeing to the 1909 ordinance the company gladly accepted its provisions and the heavy financial outlay involved in the way of fixed rates, free removals and installations of instruments, in that it added six years to the life of the franchises. He asserted that never once, until the present litigation was started, had the city intimated in any way that the franchise was not valid until 1915.

The history of the franchise litigation is somewhat involved. The city first asked the superior court for a writ or mandate empowering it to remove the telephone company's poles from the streets. When this was done, counsel for the telephone company asked a time extension, which was acceded to by the city. It is the general belief that Judge Donworth's decision will end the litigation. However, appeal by either side to the Circuit Court of Appeals and from there to the United States Supreme Court is possible.

**Connecting Company Making New Traffic Agreement with Bell, Johnstown Independent will Build Its Field.**

Following the signing of a traffic agreement between the Windber (Pa.) Telephone Co. and the Central District & Printing (Bell) Telegraph Co., connections were severed with the Johnstown (Independent) Telephone Co. Directors of the latter immediately held a meeting and agreed to expend $15,000, or as much more as might be needed, to enter the field of the Windber company and extend its own lines throughout the territory formerly reached through that concern.

Announcement was then made to the subscribers of the Johnstown company between Geistown, Scalp Level and Dunlo to the effect that direct service will now be given free, at the regular monthly rental, to all of the 6,000 subscribers in the free exchange territory. It was also stated that a line will be built at once to connect St. Michaels, Lovett, Dunlo, Beaverdale and the surrounding territory.

Three Johnstown company directors are also interested in the Windber company. They are Charles R. Glock, M. P. Boyle and George W. Swank. These strongly opposed the traffic agreement entered into with the Bell, but were outvoted by representatives of the Berwind-White Coal Mining Co., who constituted a majority of the board.

**New York Commission Resumes Telephone Hearings.**

Little headway was made at the re-opening of the hearings by the Public Service Commission of New York, Second District, as to the rates and service of the New York Bell. The commission concluded to settle the Brooklyn-Manhattan rate before taking up any of the other questions pressing for consideration.

# Financial Aspect of Government Ownership

**RESUME OF RESULTS OF BRITISH OPERATION OF TELEPHONES AND TELEGRAPHS.**
**Year ended March 31, 1910.**

**Cost of operation of telephone system was equal to 73.8 per cent of gross.**
**Cost of operation of telegraph system was equal to 112.6 per cent of gross, causing deficit of £402,011.**
**Combined cost of operation was equal to 100.8 per cent of combined gross, causing deficit of £37,567.**
**Net telephone revenue was £364,444, or but 3.59 per cent on year's capital expenditure of £10,138,128.**
**Net telephone revenue fell short of interest and sinking fund requirements by £392,563.**
**Stations gained over 16 per cent during year; gross gained less than 13 per cent.**

The 56th report of the Postmaster General of England, covering the operations of the Post Office for the fiscal year ended March 31, 1910, which has just been issued, is an enlightening document in so far as it pertains to the governmental operation of telephones and telegraphs.

The British Post Office, as is well known, has a monopoly of the telegraph business and also operates an extensive telephone system. In the latter industry its only competitor is the National Telephone Co., aside from the municipal plants at Guernsey, Hull and Portsmouth. The National system is to be taken over by the government next year, when a practically complete monopoly of the telephone will be established extending throughout the British Isles.

Elsewhere will be found the revenue accounts of both the telephone and telegraph departments, together with a statement of the combined operations of the two.

Briefly, the results for the year under consideration were as follows:

The operating expenses of the telegraph required an amount equal to 112.6 per cent of the gross revenue, showing a deficit of £402,011.

The operating expenses of the telephone system consumed 73.8 per cent of the gross revenue.

The operating expenses of the combined departments were equal to 100.8 per cent of the combined gross revenue, showing a deficit of £37,567.

The net revenue of the telephone system was £364,444, an amount equal to but 3.59 per cent on the year's capital expenditure, which aggregated £10,138,128.

This net revenue fell short of the interest and sinking fund requirements by £392,563.

The number of stations gained over 16 per cent during the year; gross revenue gained less than 13 per cent.

The publication of this report has aroused some caustic comment among practical telephone men in England and a number of critical letters have been sent the electrical journals on the subject. One recently printed by the *Electrical Times* briefly analyzed the report and the accomplishments of the Post Office generally in its conduct of these two important utilities.

"All capital charges on 28½ millions of capital," the letter stated, "have to be met from other sources than the earnings of the combined undertakings. Interest on the original capital of the telegraphs, £10,800,000, is paid out of the Consolidated Fund. On the capital added since the purchase capital account was closed many years ago, no interest is paid. Interest and sinking fund on telephone capital is paid partly by net telephone revenue and partly by royalties from licenses; the royalties for the past year amounted to £320,590, or almost as much as the net revenue of the whole telephone business of the Post Office."

**REVENUE ACCOUNT BRITISH POST OFFICE TELEPHONES.**
**Year ended March 31, 1910.**

| | |
|---|---|
| **Income.** | |
| Telephone trunk and exchange receipts | £1,433,206 |
| Less payments to foreign countries, refundments, etc. | 13,131 |
| | £1,420,075 |
| Apportionment of subscriptions, trunk fees and wire rentals (as adjusting services and collections between this fiscal year and the last), deduct | 38,341 |
| | £1,381,734 |
| Value of services rendered to other government departments without payment | 9,643 |
| Gross income | £1,391,377 |
| **Expenses.** | |
| Administrative and operating expenses | £ 473,536 |
| Maintenance of system | 399,816 |
| Renewals of plant, etc | 135,867 |
| Amount expended by other government departments in respect of various services rendered | 17,714 |
| Balance carried to net revenue account | 364,444 |
| Total | £1,391,377 |

**NET REVENUE ACCOUNT.**

| | |
|---|---|
| **Income.** | |
| Balance from revenue account | £ 364,444 |
| Royalties received from National Telephone Co. and other licensees | 320,590 |
| Repayment of principal of loans to March 31, in excess of net revenue available for the purpose | 190,235 |
| | £ 875,269 |
| **Expenses.** | |
| Balance from March 31, 1909 | £ 118,262 |
| Annuity paid to National Debt Commissioners for advances of capital made on telephone account | 184,284 |
| Repayment of principal | 572,723 |
| | £ 875,269 |

"It is to a department which produces from a technical industry financial results such as these," concluded the writer, "that the political authorities now propose to entrust the entire telephone business of the country."

A close study of the figures here shown, coupled with a comparison of the quality of the service given in England and that given in this country, undoubtedly goes far to discourage any tendency toward consideration of government ownership of telephones or telegraphs on this side of the water.

The report gives the following details as to the physical extent of the Post Office system:

There were at the close of the year ended March 31, 1910, trunk line exchanges to the number of 643, as against 598 last year, a gain of 45.

There were 2,666 trunk circuits at the close of the year, compared with 2,526 last year, an increase of 140.

The total number of subscribers' telephones was 64,200 on March 31, 1910, as against 55,125 last year, a net gain of 9,075. New subscribers, it is stated, are being connected at the rate of 150 per week.

Seventy-five miles of underground conduit were laid during the year, the total rising from 2,417 to 2,492. The length of underground wire increased from 447,797 miles to 479,899, a gain of 32,102.

Subscribers' lines and junction lines gained 16,506 miles, from 146,883 to 163,389. The mileage of wires available for development of the system decreased 3,920 miles, from 131,974 to 128,054.

**REVENUE ACCOUNT BRITISH POST OFFICE TELEGRAPHS.**
**Year ended March 31, 1910.**

**Income.**

| | | |
|---|---|---|
| For transmission of telegrams, etc., collected in cash | | £1,198,190 |
| For transmission of telegrams, etc., collected in stamps | | 2,585,386 |
| | | £3,783,576 |
| Less payments to cable companies, etc. | £656,816 | |
| Less moneys refunded | 3,375 | 660,191 |
| | | £3,123,385 |
| Apportionment of wire rentals and telegram moneys (as adjusting services and collections between this fiscal year and the last) add | | 647 |
| | | £3,122,738 |
| Value of services rendered to other government departments without payment | | 43,454 |
| Gross income | | £3,166,192 |
| Operating Deficit | | 402,011 |
| | | £3,568,203 |

**Expenses.**

| | |
|---|---|
| Administrative and operating expenses | £2,984,987 |
| Maintenance of system | 399,816 |
| Renewals of plant, etc | 74,290 |
| Amount expended by other government departments, in respect of various services rendered | 109,110 |
| Gross expenses | £3,568,203 |

**DEFICIENCY ACCOUNT.**

| | |
|---|---|
| Deficit, as above | £ 402,011 |
| Interest on capital stock | 271,691 |
| Cost of extension of system and additional plant | 236,717 |
| Purchase money of sites | 17,578 |
| Amount expended by other government departments on the erection of buildings | 88,370 |
| TOTAL DEFICIT FOR YEAR | £1,016,367 |

**COMBINED REVENUE ACCOUNTS BRITISH POST OFFICE TELEPHONES AND TELEGRAPHS.**
**Year ended March 31, 1910.**

REVENUE.

| | |
|---|---|
| Telephones | £1,391,377 |
| Telegraphs | 3,166,192 |
| Total revenue | £4,557,569 |

EXPENSES.

| | |
|---|---|
| Telephones | £1,026,933 |
| Telegraphs | 3,568,203 |
| Total expenses | £4,595,136 |

The total mileage of Post Office wires, including spare wires, on March 31, was as follows:

| | |
|---|---|
| Public telegraphs | 310,039 |
| Telephones | 601,980 |
| Private and leased wires | 258,106 |
| | 1,170,125 |
| Aerial | 428,570 |
| Underground | 731,514 |
| Submarine | 10,041 |
| | 1,170,125 |

The report states that during the year, 127 exchanges were opened by the Post Office—100 in England and Wales, 16 in Scotland and 11 in Ireland. The total number of lines directly connected with the Post Office Provincial Telephone Exchanges on March 31, 1910, was 23,635, as compared with 22,354 on March 31, 1909, and the number of exchange telephones rented increased from 30,937 to 33,330.

### Portland Home Makes Very Satisfactory Showing for Three Months Ended September 30.

Showing a very satisfactory condition of affairs financially, the statement of the Home (Independent) Telephone & Telegraph Co., of Portland, Ore., for the quarter ended September 30, 1910, has just been filed with the city auditor.

The figures show gross income for the three months of $83,419, with operating and maintenance expenses aggregating $29,387, and net earnings of $54,032.

The company is, therefore, operating at a cost of but 35.2 per cent of its gross revenue.

There are 11,493 telephones connected with the Home system in Portland. No party lines are used.

Below is the condensed report for the third quarter of the current year:

REVENUE ACCOUNT.
Three months ended September 30, 1910.

| | | |
|---|---|---|
| Exchange income | $81,381 | |
| Toll income | 1,676 | |
| Miscellaneous | 362 | |
| Gross revenue | | $83,419 |
| General expense | $10,626 | |
| Operating expense | 9,938 | |
| Maintenance | 8,823 | |
| Gross expense | | 29,387 |
| Net earnings | | $54,032 |

The Portland Home is controlled by a syndicate of local capitalists, with Samuel Hill, son-in-law of James J. Hill, of the Great Northern Railway, at its head. The same interests appear also in the Home Telephone Co., of Oregon City, the Home Telephone Co., of Albany, the Independent Telephone Co., at Corvallis, and the Northwestern Long Distance Telephone Co. Through the latter toll and long distance service are had by the Portland company.

It is expected that the calendar year now closing will be the most successful in the history of the Portland Home.

### Montana Independent Shows Substantial Gains—162 Subscribers Added in November—Collections Exceptional.

Thaddeus S. Lane, president of the Montana Independent Telephone Co., of Butte, states that during the month of November, in the Butte plant alone, 162 new subscribers were connected. He also says that the cash receipts exceeded those of any previous month in the company's history by over $1,000.

"In order to take care of our business here," said Mr. Lane, "it has been necessary to make three separate additions to our switchboard capacity during the year 1910, each addition providing for 400 telephones, and early in 1911 we shall be forced to make another installation.

"In underground and aerial cable the Montana Independent Telephone Co. has added four carloads, or 1,210 miles of copper wire, to the Butte plant within the last year. In the entire state we have expended more than $70,000 for plant equipment and have distributed $100,000 from surplus earnings among the holders of securities. The last dividend was paid on Dec. 1 of this year."

President Lane declares that an Independent connection with Spokane will be established in the early spring.

# Suppressing Extra Current Disturbances*

## Causes of the Existence of Strong and Weak Currents in the Same Lines, and Some Remedies.

By Bela Gati.

We divide the subject into three groups, on account of its size, and inquire especially into the disturbances caused by so-called steady direct currents; by the alteration of direct currents, and by alternating currents.

1. **Direct Current Disturbances:**—In Hungary the first serious disturbances caused by direct current occurred in the mountains of Tatra. The high tension direct current of the electric railways was carried in wires parallel to telephone conductors. The current in the high tension conductors was about 800 amperes, but one 100th part circulated as an alternating current of 1,000 to 1,200 cycles and naturally that induced current in the telephone conductors.

We investigated the currents of different dynamos. To measure the insulation we used the Megger, made by Evershed & Vignoles at London, which is the standard instrument of the British Post Office. We obtained the oscillograms shown in Table 1.

We were able to use a condenser at the poles of the machine, as shown in Fig. 1.

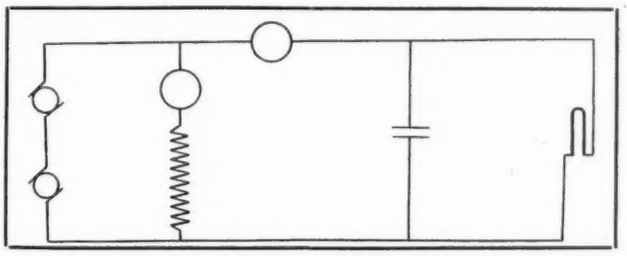
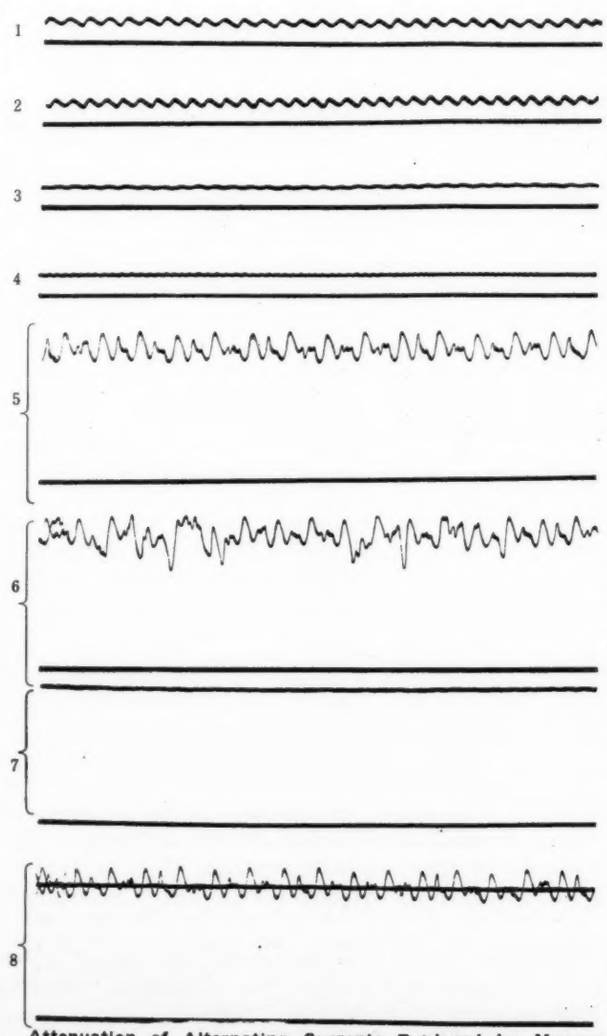


Fig. 1. Connection of Megger with Bridged Condenser for Extra Current Investigations.

Before the introduction of the condensers the current oscillated to a great degree, but after the condenser was con-

*A paper presented at the International Conference of Telephone and Telegraph Engineers, Paris, September, 1910.

## TABLE I.




Attenuation of Alternating Currents Produced by Megger Dynamo.

(1) Direct current at 500 volts, and superposed alternating current, both from one dynamo. The direct current measures 833 microamperes, and the high frequency current 212 microamperes.

(2) With a generator of 500 volts in series with a coil of high self-induction the curve of the high frequency current becomes sharper.

(3) The 500-volt generator is in paralllel with a 0.3 m. f. condenser. Direct current measures about 1,300 microamperes and the high frequency current about 500 microamperes. The oscillogram is taken beyond the condenser.

(4) The dynamo of 500 volts in parallel with the condenser no longer produces alternating current impulses. The direct current measures about 1,333 microamperes.

(5) The deviation of the direct current of the dynamo of a 250-volt Megger and the alternating current superposed. The direct current is 7,500 microamperes and the alternating current about 636 microamperes.

(6) The same machine in series with inductance. The curve becomes sharper. The direct current is about 6,130 microamperes and the alternating current about 1,060 microamperes. (The last number is obtained by multiplying the amplitude of the curve by .35.)

(7) The same machine in parallel with a 4-m. f. condenser. This connection brought the alternating current down to a straight line. The direct current is about 8,666 microamperes.

(8) The same machine with and without a 4-m. f. condenser in parallel. The line through the center of the curve shows the attenuated alternating current.

nected in parallel with the machine this ocillation diminished to a value almost invisible. We noticed here that, because the Megger is a portable instrument, the coils of the dynamo are not numerous, and thus its self-induction is rather small in proportion.

We continued these experiments upon dynamos for electric lighting. In Table 2, according to Fig. 2, are seen oscillograms which we were able to obtain after having transformed a direct current into current of a frequency of 1,000 to 1,200 cycles. We have shown that this superposed current is caused by the commutation of the machine, and it will be impossible to suppress these extra currents in our machines at present. But to overcome this disadvantage we have here sufficiently proved that in the case of a Megger it suffices to connect the condenser in parallel with the dynamo. It is true that the current fell off with this arrangement, but its duration did not cease. We have experimented with the use of inductance coils in series, but they do not totally suppress the extra current, although when connected at the same time as a condenser in parallel they totally solve this difficulty.

It is a considerable difficulty that the lighting dynamo has a winding of very high self-induction, with respect to the high frequency currents, so that we ought to diminish this self-induction in place of connecting a condenser to it, but such diminution is not possible. At least the frequency is not constant, because there is a continual variation in the number of revolutions. The speed even varies during a single revolution, and thus the frequency of the extra current varies in proportion to the number of commutations.

We found that the direct current dynamos give 1/100 part of their current in the form of high frequency current. These observations apply to commuted motors also, as in the case of electric railways, and these high frequency currents induce corresponding currents in parallel telephone conductors or telegraph lines. It is necessary, in each particular case, to investigate these extra currents experimentally to determine the dimensions of the condenser and of the inductance, and afterward we may connect them in parallel and in series, respectively, to avoid the disagreeable effects.

We think the connection indicated in Fig. 3 will be the best, with the self-induction coil and the condenser. As the coil with much self-induction represents a rather large condenser, consequently we should divide it into several coils, each with a smaller inductance, in series.

Not only lighting dynamos and electric railways produce high frequency currents, but to a still greater degree the dynamos used for telegraphing. This is of great importance in simultaneous telegraphy and telephony, and up to the present it was not thought that it was proper to suppress these commutator currents. We are still continuing our investigations along these lines.

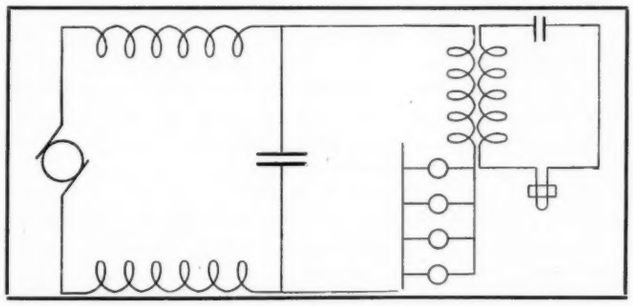
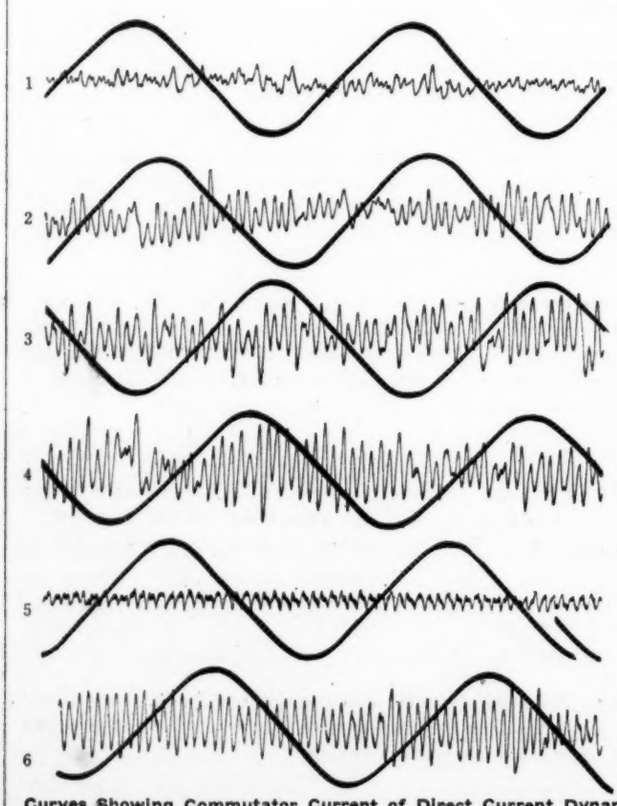


Fig. 2. Arrangement for Investigating Commutator Currents of Electric Light Dynamo.

DISTURBANCES CAUSED BY ALTERATIONS OF DIRECT CURRENTS.—The disturbances coming under this head are caused by the starting and the stopping of dynamos and by telegraph machines. In short high potential circuits, where the resistance is small, the current variation causes numerous oscillations,

## TABLE II.



Curves Showing Commutator Current of Direct Current Dynamo.

(1) The line current is 2.5 amperes; the curve through the center shows the commutator current transformed. The other, larger curve is that of an alternating current of 42 cycles. The commutator current measures 530 microamperes. There was no condenser in the circuit of the oscillograph.

(2) The line current is 5 amperes; the remainder is as in No. 1. The commutator current is about 1,006 microamperes. There was no condenser in the oscillograph circuit.

(3) The line current is 7.5 amperes; the remainder is as in No. 1. The commutator current is about 1,530 microamperes. There was no condenser in the oscillograph circuit.

(4) The line current is 10 amperes; the remainder as in No. 1. The commutator current is about 1,918 microamperes. There was no condenser in the oscillograph circuit.

(5) The line current is 10 amperes and the condenser of 0.1 m. f. is connected in series with the oscillograph. The commutator current is 360 microamperes.

(6) The line current is 10 amperes and the condenser of 0.4 m. f. is connected in series with the oscillograph. The commutator current is about 1,318 microamperes.

and may disturb telephone currents. It is important to examine electric central stations from this point of view.

Telegraph current, particularly from the Hughes machine, disturbs telephone lines. The disturbances cease if the lines are maintained in perfect balance and built so as to be neutral to inductive influences.

DISTURBANCES CAUSED BY ALTERNATING CURRENTS.—The alternating currents used for lighting and driving motors have no general influence on telephone lines except that the higher harmonics create disturbances. These can be prevented by

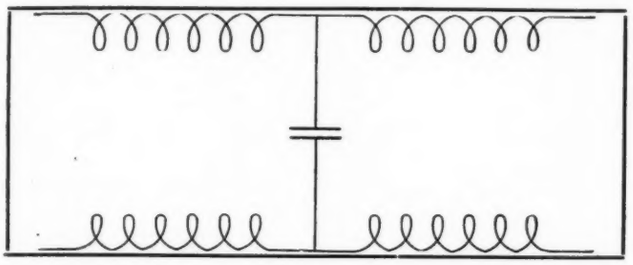


**Fig. 3. Connection of Inductance Coil and Condenser to Reduce Commutator Current.**

suppressing the highest frequencies produced by the machines, choosing such connections that the effect of the disturbing currents becomes a minimum. Disturbances from alternating currents are greater in telegraph lines. These influences are avoided by the use of less highly insulated lines and machines of less resistance.

It is important to take oscillograms in each case of trouble, and cure the trouble on the basis of the record thus obtained.

## The Influence of Pure Science in Engineering.

In his presidential address to the Junior Institution of Engineers, Sir Sir J. J. Thomson, F. R. S., said:

The distinction between pure science and engineering is one, not of method, but of aim. The physicist endeavors to discover new properties of matter for the sake of extending his knowledge of nature and without any thought as to their utility or the possibility of their application to the service of man. It is, however, a very striking feature in the history of science how almost every advance in pure physics has been turned to account by the engineer, the manufacturer and the doctor. Nothing, in fact, could be more disastrous to the progress of engineering than that the workers in pure science should hamper themselves by considerations as to the utility of their work. Did they so limit themselves, details in existing processes might be improved, but those great advances which have revolutionized industries would .be lacking.

Applied science is even more indebted to the pioneer who discovers and opens up new regions of thought than to the man who improves the cultivation of long-settled regions of known fertility. The province of applied science of engineering is to survey the facts known to science, and to select those which seem to present possibilities for industrial application. Their development can generally best be done in laboratories attached to works engaged in active trade. There should, however, be a closer connection between pure science and engineering and commerce than is at present the case in this country. This connection could be strengthened by closer relations between the workers in science and industry. In this way a fact discovered by a chemist or physicist could be quickly brought to the notice of those manufacturers or engineers who possessed the best facilities for investigating it. In some cases valuable results might ensue. The spirit which should be spread throughout British industry is the exact antithesis of that expressed by the saying, "Oh, that's all very well in theory, but it doesn't work in practice."

To unite and harmonize these two essential things should be then the mission of applied science. Applied science should keep theory and practice at the same level by raising the one underneath. Theory and practice do better work when they are driven abreast than when in tandem.

It is not that in England there is any lack of recognition of the importance of science or reluctance to use it among the leaders in applied science. It is rather that the scientific spirit has not diffused through and influenced the bulk of our industries to the extent it has done in one or two other countries. We have not lacked pioneers, like Rankine, but it cannot be maintained that science plays as large a part on the whole in engineering and industry here as it does in Germany.

Another reason for the comparative neglect of pure science in engineering is that the training in that subject given in our technical colleges is not that best adapted to develop any great enthusiasm for it. Attention is paid only to those parts of science which have direct application to present-day practice in engineering or other industries. The result is that the student gets his pure science in snippets. This is bad in every subject, but its results are especially conspicuous in mathematics. The language of mathematics should be as familiar to the engineer as his mother tongue. His mathematics should be part of himself, and he should be able to use them with the confidence with which a good workman uses his tools. If, however, a student training in mathematics or pure science is confined to those parts which are of direct practical utility, he will never acquire this confidence. He may be quite able to follow the mathematics he meets with in the course of his reading, but for him mathematics will never be a formidable weapon with which to attack a new problem. All the useful parts of a science and nothing else make a desperately dull subject.

The education of an engineer ought to be so framed as to develop those qualities which will make him in the best sense of the word a man of the world; to make him a man with wide sympathies and interests. These qualities are much more likely to develop by a training which includes a considerable study of literature than one which is severely restricted to scientific or technical subjects.

A boy at school should be trained in a scientific habit of mind, which is, after all, nothing but organized and directed common sense. The training that is wanted is one that will train the boy to think about things, one that will train him so that he will get the whole weight of his mind on to the problem he is tackling. If he has got this power then it is not a matter of primary importance as to what may have been the nature of the studies by which he has attained it. A boy who has this power is far more likely to make a good engineer, even though his training has been wholly classical, than one without it, even though he has studied the whole gamut of the sciences.

Another point to which great importance should be attached in the early training of the engineer and also of the physicist is that he should have a good drilling in experimental mechanics, and make many simple experiments on the properties of bodies in motion. He should have a little workshop of his own, not so much that he may acquire skill in the use of tools as that by familiarity with matter in motion and machines he might cultivate the "mechanical instinct." By that is meant the power which some possess of feeling instinctively without conscious reasoning in their bones, so to speak, what is the accurate solution of some mechanical problem.

In conclusion, to quote Sir Andrew Noble: "Do not be too utilitarian, do not narrow the search for knowledge down to a search for utilitarian knowledge, for knowledge that you think will pay . . . above all things, pursue knowledge."

**Frank L. Perry, Formerly of Western Electrician Staff, Organizes Highly Successful Classified Advertising Department for Baltimore Sun.**

Frank L. Perry, for many years connected with the staff of the *Western Electrician*, both in the editorial and advertising departments, and well known by electrical and scientific men throughout the country, has lately added another achievement to his already rather remarkable record. This was the special work of the organization of a classified ad-

Mr. Frank L. Perry.

vertising department for the Baltimore *Sun*. In recognition of the exceptional success which attended this temporary re-entry of Mr. Perry into the field of publicity, following a period of devotion to research work in his laboratory, Mr. Charles H. Grasty, president of the *Sun*, presented Mr. Perry with a beautiful silver cup, shown in the accompanying illustration. The cup bears the following inscription: "F. L. P.—Classified Sweepstakes—June, October, 1910—C. H. G." Commenting on Mr. Perry's efforts, made on behalf of his paper, Mr. Grasty effectively sums them up as follows: "As a result of which we are making large gains as compared with any previous period in the history of the the *Sun*. In a wood, he made good.'"

Mr. Perry was born in Cumberland, Md., but has made Chicago his home for many years. His experience has been varied and practical, ranging from locomotive building to electrical expert work, editorial and special writing, lecturing on electrical and other scientific subjects, and, incident-

"Classified Sweepstakes" Cup Presented to Mr. Perry.

ally, perfecting a large number of practical devices in every field which he has entered.

It should also be chronicled that Mr. Perry, last year, as special representative of the Chicago Electrical Trades Exposition, secured for exhibition purposes from the U. S. war department the government's one Wright aeroplane—a piece of diplomatic work that won him great credit for tact and resourcefulness.

His connection with the *Western Electrician* was severed in order to devote his entire time to special electrical research work. As to the nature of the researches upon which he has been engaged, Mr. Perry says only:

"About eight years ago I became possessed of the idea that vibratory or oscillatory phenomena, or wave motion, were not understood as they will some day be, and I realized that one might well devote a lifetime to the investigation of wave motion. Electrical waves, waves in air, ropes, chains, rods, and other media, have occupied me very closely and my progress thus far has been eminently satisfactory. But I have nothing more to say as yet."

Mr. Perry has been constantly importuned to re-enter the world of business, in which he was so conspicuous a success, but has thus far resisted the demands. His many friends in that field will be glad to know that he has made at least one dash into it, with his usual success, and will eagerly await a statement from him regarding his laboratory work.

**Sand in the Gear Box—A Little Preachment Along Practical Lines Founded on a Mechanical Fault.**

The automobile and the flying machine have created an age of mechanical terms and similes, writes H. W. Martin in *Office Appliances*. We all know what a gear box is, and most of us know what cutting, grinding, disastrous wear the bearings and meshes receive when sand gets into it—how the machinery complains and runs hard, and how, upon examination, we find some of the once smoothly polished axles, the fine bearings that should run with the precision of a watch, seamed and scratched and roughened by the flint-like particles that have filtered in through a loosened or imperfect seam in the gear box. We find the cog wheels, whose teeth should mesh together with hardly the play of a thousandth part of an inch, all worn and scratched, sometimes so badly after a long run and careless handling that they rattle together like the gears in an old mowing machine. Our engine complains, balks, runs irregularly, works hard, and pounds along, burning up gasoline enough to give us sixty miles an hour and getting only twenty-five. For part of a revolution the machinery will race, and then it will drag, jarring every nut and bolt and cylinder head by the alternate extra pressure and relaxation—and all because the gear box failed to keep the sand from the machinery.

A common understanding and appreciation of machinery among most men makes it quite clear why it is undesirable to let the sand get into the gear box. The finer the mechanism the more disastrous the results of mistreatment.

These works all about us, the smoothly running businesses, the harmony, the jointure of thought and action, the relatively few mistakes and the high percentage of efficiency are wrought by men in all walks of life who have kept the sand out of their gear boxes.

The human cranium is the gear box of our anatomical structure. It must be clean within, that each cell of the millions that form the deeply convoluted brain shall be able to do its proper work without the "kick" of an overworked engine.

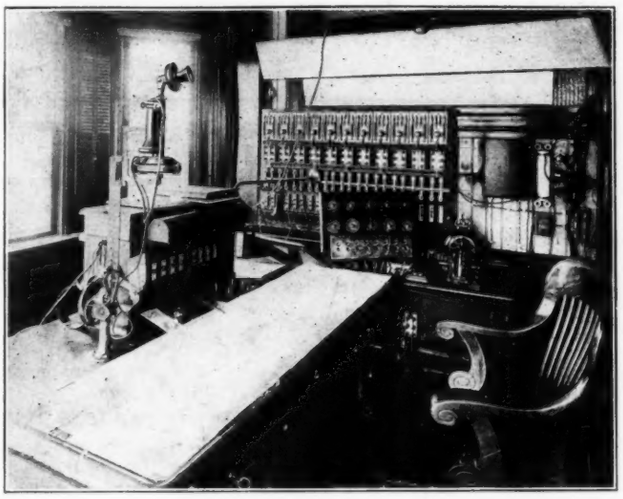
He whose mind is a storehouse for the evil, the morbid, the unhealthy is putting sand in the gear box, and must pay in health and efficiency for worn-out nerves and inefficient brain force. He who leads the corrupt life, openly or otherwise, puts sand in his life's gear box. The people of the brain determine not only the plane upon which one lives, but the force, kind and usefulness of the life lived.

He who "soldiers" on his job; who neglects to give thought to his work; who does things by halves; who labors for the "good enough" and the "it will do" diploma; who does to-day what ought to have been done last week—all are putting sand in their gear boxes—substituting careless habits for habits of care and precision and storing up worry and labor instead of peace and contentment when the long winter nights close in.

# Telephone Car Control on High Speed Railway

**Train Dispatching on Trolley System Between Boston and Worcester.**

The Boston & Worcester Street Railway, operating between Boston and Worcester, Mass., says the *Electric Traction Weekly,* represents perhaps the highest class of interurban electric railway operation in the New England states. It is one of the few high-speed roads in that district and is noteworthy for being practically all double track. In spite of this fact, the officials of this company have gone to unusual expense to provide safety precautions. Trains are operated by a dispatching system largely with written orders and the entire line is equipped with block signals which serve as spacing signals against the possibility of rear end collisions. The line is also equipped with dispatcher's signals by which the dispatcher can call a train crew at convenient points. The main line, 31½ miles in length, is all double track except ½ mile between Central Square and Winter street in Framingham, about half-way between terminals. At Central Square there is a branch line to South Framingham, two miles. The schedule time of local trains between Boston and Worcester is one hour and 30 minutes, while limiteds cover the distance in one hour and five minutes.



Dispatcher's Office Where Car Control Telephone System Centers.

On the double track there is a system of verbal orders for all movements except against current of traffic. In cases where it is necessary to move against the current of traffic all orders are written. On the half-mile of main line, single track, all movements are by written orders. The dispatcher's office is located at Framingham, very close to this section of single track, and the use of written orders places the responsibility on the dispatcher and allows quick changes of schedules. Egry automatic registers are used for all written orders and these are located at all junctions, at ends of single track and at cross-overs. The register makes three copies, of which two go to the train crew and one is retained in the register. The conductor writes the order, repeats it and, if O. K., the dispatcher gives "correct" and time. Dispatcher's records are made in a book similar to the standard form used by steam roads. The orders are also noted on a standard train sheet, but due to the great number of trains, the trains are not indicated by train number as is usual on most interurban roads. In issuing an order the car number and names of motorman and conductor are given. There are four branch lines, ranging from 1½ to 3½ miles in length, and on these verbal orders are used but records are made on a sheet, a sample of which is shown herewith. The branch line from White's Corners to Hudson, nine miles, is handled by a division superintendent at Marlboro. Verbal orders are used on this line and both motorman and conductor go to the telephone and repeat them. On all lines where more than one car is operated on a schedule, green flags and lights are carried for following cars. The attention of opposing cars is called to signals by three short blasts from a whistle. At junctions and ends of single track, train registers are used and all cars going from single track register names of conductor and motorman, time, car number and signals carried. Cross-overs are situated practically 7½ minutes apart, which makes it possible to operate a 15-minute schedule, even if one track is blocked. Blake dispatcher's signals are located at cross-over junctions and ends of single track, so that the dispatcher can reach a train crew at any of these points. This was the first signal outfit installed by the Blake company, and, while the apparatus is not of the latest type, it has given excellent service. In the accompanying illustration of the interior of the dispatcher's office, the Blake signal outfit is shown directly at the right of the dispatcher's desk. In this first installation of the Blake signals, the signal control consists of a dial having a number of notches, each station being represented by a different number of notches. When it is desired to drop a certain signal, the proper disk is placed on the clock mechanism, and the signal having a corresponding number of notches is dropped.

To facilitate train movements at Framingham Junction, where the dispatcher's office is located, there are a number of red lights governing all routes. These lights are five-light circuits, four in the signal and one in the office. These are operated by push-button switches and the operator is assured that the proper signal has been given by the pilot light over his desk. At South Framingham, 1½ miles from the office, the terminal of two branch lines, there is a gong to call crews to the telephone. This is operated from a trolley circuit from a bank of five lights in the office and a bare iron wire to the

**Boston & Worcester St. Ry. Co.**

Train Order No._____

Date_____ 190____ | Correct at_____ M.

№ 13702

_____ Motorman

_____ Conductor Dispatcher

THE EGRY REGISTER COMPANY, DAYTON, OHIO.

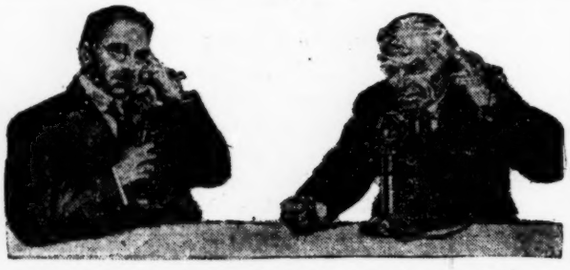
Train Order Sheet, Where Telephoned Instructions Are Recorded.

terminal. When the armature of the bell moves toward the magnet it short circuits the magnet bell, but does not open the circuit. As it moves the pilot lights in the office flicker, and in this way assurance is given to the dispatcher that the gong is ringing. These pilot lights, together with those controlling the signal lights, are contained in a case over the center window of the dispatcher's office, as shown in the accompanying illustration. Within reach of the dispatcher there is also an emergency switch, the closing of which cuts out the high tension and rotary switches at the power station, shutting off the power of the entire system in five to eight seconds.

Telephone booths are located at all cross-overs, junction points and ends of double track, and the instruments are connected in the lines by repeating coils to prevent injury to the men. All operating telephones are cut off the line when not in use. In the booths a chain from the switch to the door opens the switch when the conductor leaves the booth. Where telephones are in boxes, the switch has to be opened before the door can be closed.

### Denver Business Man Opens Fight on Telephone Trust.

The accompanying illustration is a reproduction of an advertisement which appeared in the Denver *Post* of November 8, 1910. There has been considerable agitation against



*"Hel-lo! Mr. Field—this is Mr. Jefferay talking."*

*"Well, Mr. Jefferay, what can I do for you?"*

*"Just called up to say I sent a check for this month's bills. Wanted to save your company the trouble of again calling up my house. By the way, Mr. Field, would it be presumptuous on my part to ask you to give me the date of your franchise and the amount of money your corporation pays the City of Denver for the use of its streets and alleys? What's that? You have no franchise! Oh, I see! Don't need one! Well, the Automatic Company did, and this is not an age for playing favorites. Yes, Mr. Field, I'm still on the line. Too busy to talk! Well, I'll call up Geo. Kindel. He'll give me the information I want. Good bye.*

**F. W. Jefferay.**

*President Jefferay Hat and Clothing Co.*
*1635 Curtis Street*

**At Least One Denver Business Man Is Hot After the Telephone Monopoly.**

the Bell company which, although conducted more as a local corporation than are many Bell licensees, is still exciting considerable discontent by its methods of dealing with the public. Mr. Jefferay has a reputation as a public-spirited citizen, and has engaged in several movements in the public interest and shown considerable vigor and originality in his campaigns.

### Free Telephone Service in Sweden.

Orson, a town in Sweden, says the *Mississippi Valley Lumberman,* is an ideal place to live. The people pay no taxes and have street car and telephone service free. This is all because the town planted forests a good many years ago, and the proceeds from the sale of timber pay all these expenses. Now is the time for American municipalities to set out their trees.

### What Squirrels Do to a Telephone Cable.

The mystery of the attraction which the interior of a telephone cable possesses for squirrels has never been solved, yet it is a well known fact that these creatures are considered to be a pest by managers in many parts of the country. Their sharp teeth make short work of the lead covering, and then it is only a question of when the first

**Section Cut from Aerial Cable Gnawed by Squirrels.**

damp weather comes before the result of their work shows up in the shape of crosses which light the lamps at the central office and cause all pairs to "talk together."

Sometimes, even, as in the case shown in the illustration, they not only eat through the lead sheath but strip the paper covering off the wires, producing crosses immediately. This view was taken from a piece of cable sent in by one of the subscribers of TELEPHONY.

### Sedalia, Missouri, Independent Makes Gains Under New and Aggressive Management.

Sedalia, Mo., is at last in a position to see the development of Independent service it ought to have. As many of TELEPHONY's readers probably know, owing to the failure of the Sedalia Home Telephone Co. to take advantage of opportunities offered, the Bell Telephone Co. has long been predominant. At the present time the Bell company is serving about 2,000 subscribers and the Home company some 500.

A short time ago Mr. E. M. Scearce, whom TELEPHONY's readers remember as the manager who so quickly and thoroughly built up the Lead Belt Telephone Co., of Flat River, Mo., was secured as general manager of the Sedalia company. His efficient and active management has already made the situation turn in a direction favorable to the Independents.

Plans have been formulated for the reconstruction of the Independent company's systems in Smithon and Otterville, and then in Sedalia. A new exchange building will be erected in Sedalia, and connecting lines will be built to all towns in Pettis county, Mo., and the rural districts will be covered. The company has the support of many of the leading business men of Sedalia.

Within 23 days from the first of November, 190 telephones were added to the Sedalia plant, and the outlook for continued rapid growth is very bright. Mr. Scearce says, "The Bell Telephone Co. has done everything in its power to thwart our plans, but we are gaining ground every day, and expect in a short time to be up to it, if not greater."

### Rural Telephone Becomes Adjunct to Railway Operation.

Railway employes have found a new use for the rural telephone. A breakdown recently occurred many miles from a telegraph station. Instead of having to walk to the station, as was once necessary the conductor of the train made use of a telephone on a nearby farm Soon all trains will be supplied with portable telephones, for use on lines running beside the tracks.

*The telephone secures a man's exclusive and undivided attention.*

*The telephone annihilates distance and makes minutes do the work of hours.*

**Progress in West Texas—Company Will Spend $100,000 Next Year—High-Grade Cable Distribution—A Well Designed Office Building.**

Independent telephone men of Texas all seem alive to the possibilities which that State offers in the way of telephone extension, and from many quarters TELEPHONY is receiving reports of activity by various companies. Not the least interesting among such reports is one from Brownwood, county seat of Brown county.

The West Texas Telephone Co. has its general offices in that city, and the accompanying photograph shows the model exchange building recently erected by the company. The 1,200 cable pairs are distributed throughout the business portion of the city by means of interior block distribution; and the residence portion is taken care of on a one and two cross-arm basis. All lateral taps have been designed to care for the ultimate capacity, while the cable leads are designed to care for a four year period. In the Brownwood exchange are installed 1,040 C. B. lines, and six toll positions.

New Exchange and General Offices of West Texas Company.

The Coleman, Tex., plant of the West Texas company, a common battery plant, has 600 lines installed and three toll positions. The company has but recently completed the reconstruction of this system. In the outside construction No. 14 paired, rubber covered copper wire was used for distribution direct from the terminal boxes, and 25 foot poles were used throughout.

In Ballinger, where a 600 line magneto switchboard is operated, the cable distribution is made in a similar manner to that used in Coleman. Four toll positions are operated here. Property has been recently purchased by the company here, and the officers hope soon to be in a position to construct their own building and intend installing a common battery switchboard, replacing the magneto system.

At Winters and Goldthwaite magneto systems are operated and maintained in a first class condition. Here, as in all its construction, the use of cross-arms and open wire is avoided as much as is possible.

In all the company has connected to its system over 2,800 subscribers, and owns about 700 miles of toll lines, of standard construction, and located on railway rights-of-way. Mr. W. T. Stromeyer, secretary and treasurer and general manager, states that his company is not behind in its construction, and is promptly taking care of the business offered; and that plans to expend in the neighborhood of $100,000 for toll line extensions and additional smaller exchanges are formed in the minds of the officers and stockholders.

As to the toll business for the past year, while the total toll business for the season did not reach the amount estimated on account of poor crop conditions, the general increase in population and business enterprises brought the general toll business for the year above the average. This the company considers more profitable than the rush toll business occasionally due to the handling of a big cotton and grain crop.

The West Texas Telephone Co. appreciates the value of educating its subscribers and to accomplish this purpose has decided to keep "open house" for the public periodically, when the workings of the plant are explained in as much detail as possible. On October 7 the doors were first thrown open to the public for inspection. The manner of handling local calls was explained with care, and the users of the long distance service were shown the manner in which their calls are handled. Particular care was taken in explaining the method of keeping a record of the calls. Mr. Stromeyer reports that the moral effect this had on the subscribers was remarkable as shown by the greatly diminishing number of exaggerated trouble complaints.

The interior of the Brownwood exchange building is modern in every respect, and arranged for comfortable and systematic work. On the main floor are located a reception room, local manager's office, terminal and apparatus room, large vaults for the storing of supplies, books, records, etc., and booths for long distance use. On the second floor are the general manager's and auditors' offices, operating room, and the usual rest rooms provided in modern exchanges.

Mr. Stromeyer says that the company has perfected an excellent method of handling accounts by combining the system used by Bell companies with that used by large railway systems and have worked up a very satisfactory method of accounting for a telephone property.

Officers of this company are: J. A. Walker, president; G. N. Harrison, vice president, and W. T. Stromeyer, secretary-treasurer and general manager.

# Before Courts and Commissions

By A. H. McMillan.

### More Argument on Dallas Ordinance.

Before the special court appointed by Governor Campbell of Texas, to pass upon an appeal in the case of Rev. John L. Andrews vs. Southwestern Telg. & Tel. Co., involving the ordinance of the city of Dallas, the attorneys for the telephone company have presented its side of the case. In his opening argument, the company's attorney contended that the initiative ordinance is void and unreasonable because of its extra-territorial character, in that the telephone company furnished service to people living outside the city limits, and therefore an ordinance not exempting these subscribers is not enforcible. He gave as further reason for the ordinance being void that it requires the telephone company to furnish thirty days' service before receiving any compensation, and that it therefore takes property without adequate compensation. He also declared that the initiative ordinance is invalid for the reason that it takes from the law-making body, the city commission, the power of legislation, and that, if it be admitted that there are two law-making bodies in Dallas, the ordinance is unconstitutional because the city commissioners are the proper legislative body.

In reply it was argued that the fact that a man lived a mile out of the city limits ahd that the telephone company ran a wire to his residence, would not justify the defendant in violating the laws of the city in which it had its main offices and which it had agreed to obey. Answering the argument that the enforcement of the ordinance was taking property without compensation, the complainant's attorney declared that this argument could more properly be made by the telephone subscribers. "There are seventy thousand telephones in the city of Dallas and the average rental per month is approximately $3. Therefore, the telephone company has in its possession $51,000 belonging to the people of Dallas before a conversation is ever passed over its lines. They have no right to collect in advance."

### Duty of Electric Companies Towards City Employes.

A suit was brought against a telephone company and a lighting company for injuries to an employe of the city, under the following circumstances. The telephone company maintained a pole to which were attached crossarms, under which was a cable-box, and under that a metal cable seat supported by iron braces. The cable passed underneath the cable seat, to which it was connected by a partially insulated wire, passing through a hole in the cable-box. The lighting company maintained a pole two feet from the telephone company's carrying two wires of high voltage, one of which was attached to the telephone pole so near to one of the cable seat braces and the iron step of the pole that one climbing it was liable to come in contact with the wire and brace or step at the same time. The city maintained fire and police wires on the telephone pole and the city employe, while climbing the pole, came in contact with the electric wire while he was holding to the cable seat brace on the telephone pole, making a connection which caused a current to pass through him from the electric wire. In his action, he alleged that the telephone company was negligent in attaching the cable to the cable seat by a wire, thus grounding the cable seat and endangering persons rightfully on the pole who came in contact with the seat and the electric wire, and that the electric company was negligent in not properly insulating its wire attached to the telephone pole. A verdict was directed for the defendants on the ground that the plaintiff had failed to show the duty on the part of the companies to protect the plaintiff, he being in the employ of the city. This contention was overruled by the appellate court of Indiana and a new trial ordered. The court held that both companies were bound to anticipate the use of the telephone pole by the city's employes in inspecting its wires and must therefore use reasonable care in constructing and maintaining their wires for the protection of such employes. Beaming vs. So. Bend Elec. Co., 90 N. E., 786.

### An Inquiry for the "Cupid" Editor.

One of our subscribers has a daughter who keeps company with a young man who is objected to by her father. The father has ordered us not to connect his telephone with that of the young man. Can we legally refuse to make this connection? The young man has his friends call the young lady to the telephone and then he talks. Can we disconnect them if we know this to be the case?

We have an exchange of 300 local lines and one operator, who is kept pretty busy.

We also have trouble with the station agent of the railroad who refuses to answer his telephone, and gave orders not to be connected to any one. He has an ordinary business telephone. It seems to me that I have seen in TELEPHONY that no subscriber may dictate who shall call him and who shall not.

We do not believe that you can legally refuse to make a connection between the obdurate father's telephone and that of his daughter's suitor. It is true that no subscriber may dictate who shall call him and who shall not.

From the above answer it will be seen how hearty is the sympathy between our Cupid editor and the little god himself. We are glad that our opinion in this matter will be of assistance to the romantic young couple. We remember how it once was with ourselves.

### Regulating Construction Does Not Authorize Fixing Rates.

A proceeding in mandamus was commenced against the South McAlester-Eufaula Telephone Co. to compel it to restore certain telephone instruments to the business houses of the plaintiffs and to furnish adequate toll service between Hartshorne and McAlester and intermediate points. The telephone comtany had refused to give service at the rates prescribed by a franchise of the town of Hartshorne, Indian Territory, now the city of Hartshorne, Oklahoma.

The company based its authority upon Section 3 of the Act of Congress of March 3, 1901, and the rules and regulations of the Secretary of the Interior. Section 3 provides, "That incorporated cities and towns into or through which such telephone or telegraphic lines may be constructed, shall have power to regulate the manner of construction therein." It was claimed for the plaintiff that the ordinance fixing the rates was justified by this section, but the Supreme Court of Oklahoma held that under it incorporated cities and towns were not granted the power to fix rates for telephone charges by ordinance or otherwise, or to exclude telephone lines from the use of their streets upon compliance with Section 3 and the rules and regulations of the Secretary of the Interior. The decision for the plaintiffs was therefore reversed.

The following definition of a franchise is given in the decision: "A franchise is a right or privilege granted by the sovereignty to one or more parties to do some act or acts which they could not do without this grant from the sovereign power." South McAlester-Eufaula Tel. Co. vs. State, 106 Pac. 962.

# Ideas and Experiences of the Thinkers

**Conventions; South Dakota, Redfield, Jan. 11-12; Kentucky, Louisville, Dec. 20-21; National Convention, Chicago, Jan. 17, 18, 19.**

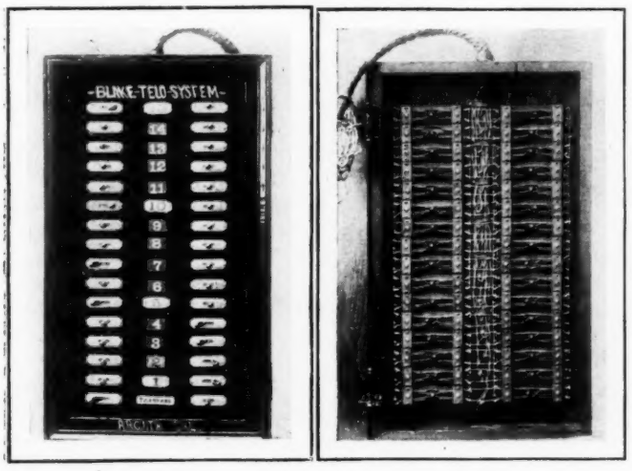
### Keys and Ingenuity Combined to Make an Economical Rural Line Switchboard.

Some time ago you asked me for a photograph of my Yankee switchboard; I was not able till now to get a good one, but here it is.

The switches are set so that lines 1 and 2 are talking on one bank, lines 3 and 4 on another, while on the left hand side you will see that lines 5 and 7 are operating and 10 and 15 are by themselves, while the ringing and listening key at the lower left hand corner is set to listen in on 5 and 7. All other switches are on the neutral point.

The operation is extremely simple. To make a switch say from line 1 to 2, the operator does this: Throw "telephone" and No. 1 lever both in the same direction; take the number; put No. 1 on neutral; throw lever 2 in same direction as the telephone switch and call; then throw 1 same as 2 and there you are.

The position of the home, or telephone switch does not interfere with the talking, no matter what position it is in, and eight parties can talk through this board at the same time, or in other words it is the same as four pairs of cords and plugs, with absolutely nothing to get out of order. It is also very compact, measuring 26x13½x4 inches—a little larger than the ordinary wall set, and these dimensions could be cut down considerably if desired, for the space taken up by the "works" is only 12x19½ inches.




Front and Rear Views of Home-Made Cordless Board.

The box is made of California redwood with two coats of Voltlack and then varnished, which makes it both fire and damp proof. There is not a screw or nut about the board to come loose—everything is soldered right, not stuck together, and I dare say that there will not be a penny laid out on this fellow for the next ten years.

I operated one of these boards for five years in one of my central offices and it gave great satisfaction, but the switches were the regular kind with porcelain bases, having lots of nuts and screws which got loose and made us trouble. With this new one everything is as snug as a bug in a rug.

Arcata, Cal. J. H. Blake,
Proprietor, the Blake Independent Telephone System.

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The fellow who wins higher by treading on another man's face may make a little more money than the chap who plays the game fairly, but his beer won't taste good.

### General Manager of Mexican Company Reports on Wet Cable Experience.

Having seen the request for a statement in regard to experience in testing for wet cable spots, which appeared in your December 10th number I would like to have you notify this party that I have been using the "Wireless" cable tester, manufactured by the Electric Specialty Mfg. Co., Cedar Rapids, Iowa, for the last two years with excellent success, having located many damp spots in cables with practically no trouble at all. I take pleasure in recommending this tester for such troubles in cables. Printed matter will be mailed to any one writing the manufacturers, giving all details necessary for the successful operation of it, which is very simple.

Durango, Mex. W. C. Bishop,
Compañia Telefonica de Durango.

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### Telephone Develops New Way for Child to Learn to "Tell Time."

Some months ago I inadvertently agreed to get my son, now just past six, a watch as soon as he could "tell the time" by the clock. Nothing having been said since concerning the matter, it had quite passed from my memory.

The other evening when I arrived home my wife inquired:

"Father, have you been teaching John to tell the time?"

Not having been guilty of such a villainous trick, I protested vigorously, finding many excuses.

"Anyway," I concluded, "You must be mistaken."

I then handed the boy my watch and asked him the time, which he told me, after a little hesitation.

"John, where did you learn to tell the time?" I inquired.

"The telephone," he replied, and that is all he would say.

After studying about the case from all angles his mother finally recalled that he had made frequent use of the telephone to inquire the time of the operator, in spite of her injunction for him not to do so.

With this clue to work upon, I again questioned the boy, and found that he had been making a regular practice of asking the operator the time and then taking mental note of the position of the hands upon the dial of the clock. In this way he mastered the problem by his own intuition.

Will some one please state how many watches it will require to last him a week, provided the hammers, screwdriver, knives and forks, etc., are kept on the top shelf?

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### Baboon on Telephone Frightens Telephone Operators.

A trick baboon, belonging to a theatrical company, says the Brooklyn *Standard Union*, caused lots of commotion in J. H. Morris' hotel, at 912 Broadway. Several hysterical telephone girls in the Boerum street exchange rang up a police lieutenant and told him terrifying moans were coming from a booth at Morris' hotel.

Two "cops" of the Vernon street station were rushed down to the hotel, expecting a tragedy. In the booth, grinning and jabbering with the receiver in its hand, was the trick baboon of a theatrical company, which on Saturday night closed an engagement in the theatre next door to the hotel.

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### Copper Producers' Report Shows Decrease in Stocks.

The Copper Producers' Association report for November shows stocks, 130,389,069, a decrease of 8,872,845; production, 119,353,463; domestic deliveries, 60,801,992; exports, 67,424,316; total consumption, 128,226,308.

# Answers from Experience

### Cross-talk Due to Construction Defects.

We have two metallic iron circuits about 8 miles long, running side by side on the lower arm. On the top arm are five metallic copper circuits. We can only use one of our iron circuits at a time, the the cross-talk being so bad it makes it impossible to use both. Both lines seem to work equally well alone. They are transposed as shown in Fig. 1. Can you give us any reason for this cross-talk?

Your trouble is due either to faulty insulation of the iron circuits or to high resistance splices in the iron line wire. Make a test by clearing each circuit of all apparatus and satisfying yourself that there is no leakage from any wire to earth or to any other wire. Then tie

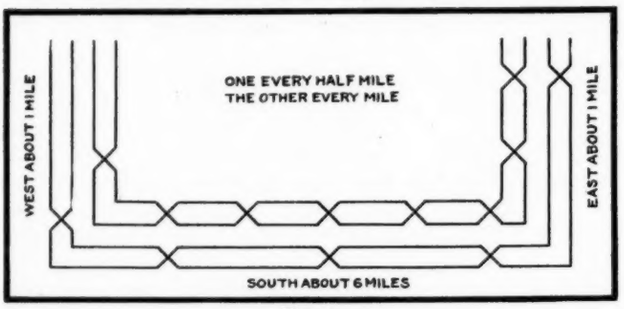



Fig. 7.

all wires together at the point farthest from the office, being sure to get a perfect connection.

Calling the wires *A*, *B*, *C* and *D*, and letting these letters represent also the resistance of each, measure the resistance of *A* and *B* in series and call it $R_1$. Let $A+C=R_2$ and $B+C=R_3$. Then $A=\frac{1}{2}(R_1+R_2-R_3)$. This is the resistance of wire *A*.

Then $B=R_1-A$ and $C=R_2-A$.

Lastly measure *A* and *D* in series and calculate the resistance of *D* alone by subtracting the value of *A* alone. If your wires differ materially in resistance, you need to hunt for bad splices.

### Tests for Wet Cable.

I would like to know if there is a perfectly reliable test circuit or apparatus of some kind that will locate "wet cable" trouble. I have used two different kinds of "Tone Tests" but without very much satisfaction.

The following remarks are preliminary and general. Details will be given if desired, as the subject is large.

All degrees of wetness are encountered, but they may be classed roughly in three groups:

1. Dead short circuit, due to the cable being very wet. Usually all pairs are involved, and a so-called "wireless" or induction testing instrument will find its exact location with ease. If any good pairs are available, a loop test with a Wheatstone bridge may be used.

2. Very high resistance leak due to a small amount of moisture. It may be several hundred or thousand times the line resistance, which makes measurements difficult. The heat of the testing current often vaporizes the moisture, thereby clearing the fault, but it usually returns when the current is removed. Ordinarily only a few pairs are affected. Careful measurements with the loop method are necessary to locate the leak.

3. Leakage between the two above extremes, low enough to cause permanent trouble, but high enough to make it difficult for a "wireless tester" to locate. Usually the whole cable is affected, though not necessarily, for some pairs may be good. The location may be found with the bridge and some loop or other test. Some people propose to apply enough voltage to the cable wires to burn the wet spot into a low resistance cross or ground, after which the cable may be ridden by a man and the exact location easily found by a "wireless" set. This heroic treatment is not advised.

The bridge measurements may require more care, but will offer no risk of damaging the cable, *and will give results if rightly used.*

### High Tension Interference-Method of Transposing.

I would like to ask your opinion on transposing a toll line. We have a toll line coming into our office and on damp days it is impossible to talk over it. It is also noisy in dry weather. It is a bracket lead and is on the same side of the road as the high tension and feeder wire, the feeder carrying 650 volts D. C., and the high tension carrying 22,000 volts A. C.

I would like to know if all transpositions should be cut the same way—right over left or left over right.

We also have a toll line that picks up cross talk which is transposed every half mile. One transposition is right over left, the next left over right. If they were changed would it help any?

We should have to have a diagram of your lines going into a great deal of detail and many more particulars about both your lines and the high tension line before we could advise you properly on transpositions.

In several past issues of TELEPHONY there have been published, in the query pages, suggestions as to the kind of information necessary for us to have before an answer can be furnished to questions on high tension induction. In justice to our other readers we can not make repetitions of these instructions in these pages too often, but rather advise our subscribers to keep their files of TELEPHONY intact for reference when these problems come up. We believe, however, that if you will look over some of these back issues you can figure out how to make some improvements in your transposition scheme.

We have no doubt that part of your trouble is due to poor insulation. Test the insulation of your telephone line with a high voltage battery and a sensitive voltmeter, and get it thoroughly cleaned up.

As far as cross-talk or induction noise is concerned, it makes no difference whether you throw left over right or right over left all the time or sometimes one way and sometimes another. As a matter of convenience and good workmanship it is a good plan to throw all transpositions the same way, and many companies throw them right over left.

### How to Follow Telephone Patents.

I notice each week under "Recent Telephone Patents" short descriptions of patents on automatic and semi-automatic systems. These articles are too short to understand, and I wonder if I can get more complete articles on these subjects, and where.

Complete copies of patents may be obtained by writing to the Commissioner of Patents, Washington, D. C., and enclosing 5 cents for each patent desired. In applying for a patent state the number of the patent, the date patent was issued, the name of patentee and the invention. In remitting for patents only cash or money order should be used, as stamps and personal checks are not acceptable.

The usual patent specification includes a sufficiently complete description to enable the reader familiar with general art to understand the construction of the device and its operation, while the claims cover the novel features protected by the patent.

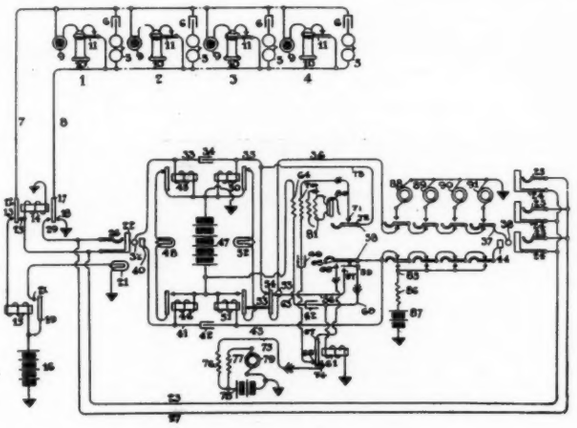
# Telephone Patents

**By Max W. Zabel.**

REVERTING BUSY TEST SYSTEM FOR PARTY LINES.

D. A. Lawver and C. C. Bradbury, Chicago, Ill., patent 978,603, Dec. 13, 1910, assigned to Kellogg S. & S. Co., Chicago, Ill.

The invention disclosed herein contemplates the provision of a special busy test signal for party line service when a subscriber is calling another subscriber on the same line. A test relay 61 is used in the normal operation of the system. Where a test is made on a party line circuit when one subscriber is calling another, test relay 61 will open the circuit of the sec-



ondary of the operator's induction coil and will connect the distinctive tone of the secondary 76 of the tone producing transformer to the tertiary winding 64 of the operator's induction coil. This distinctive current will cause a tone to be produced in the operator's receiver, which is only heard when the operator tests the multiple jack of the same line with which the answering end of her cord circuit is connected.

SIGNALING APPARATUS.

G. H. Caughrean, Ketchikan, Alaska, patent 978,695, Dec. 13, 1910, assigned one-sixth to A. J. Dunton and one-sixth to H. T. Dobson, of Ketchikan, Alaska.

This invention contemplates the use of the receiver as the substation signal-receiving device, and consists in mounting the receiver in front of the transmitter so that when the proper current is sent a singing noise will be occasioned in the receiver, due to the interaction of the receiver and transmitter. The receiver is mounted in front of the transmitter so this action can take place, and rests upon a switchhook, which is mounted in a box below the transmitter, and extends forwardly therefrom.

TELEPHONE RECEIVER SUPPORT.

J. G. Harris and A. Mancuso, Philadelphia, Pa., patent 978,370, Dec. 13, 1910.

In a telephone receiver holder for desk telephones the receiver is mounted on a swinging lever, which, in turn, is mounted on a bracket fastened to the desk stand. When the receiver is swung forwardly it is opposite the ear, and when it is swung backwardly it rests against the switchhook lever and depresses it.

COMBINED TELEPHONE AND ALARM SYSTEM.

W. W. Dean, Chicago, Ill., patent 978,709, Dec. 13, 1910, assigned to Consolidated Fire Alarm Co., New York, N. Y.

The invention herein is designed for composite telephone and fire alarm service. It contemplates a magnet in each side of the metallic telephone lines, an alarm receiving apparatus to respond to the incoming alarm or kindred signal, and means controlled by these magnets to prevent the operation of the alarm apparatus when normal telephonic currents are present on the lines. A trouble test is also provided whereby trouble on any of the lines will be manifested by suitable signals and may be at once isolated from the remainder of the system to not disturb it. A common source of current is used for both systems.

TELEPHONE RECEIVER.

H. R. Stuart, Newark, N. J., patent 976,230, Nov. 22, 1910.

A telephone receiver has a diaphragm with centrally located sound passages extending from both sides of the diaphragm, the diaphragm with its sound passages being eccentric within the circular casing of the device and eccentrically connected to the operating magnet or magnets. The two operating magnets are of the solenoid type and have fixed and movable polar extensions which project into the interiors of the respective solenoids. These extensions are connected together and rock so that when one is entering its solenoid, the other one is receding therefrom.

TELEPHONE MOUTHPIECE.

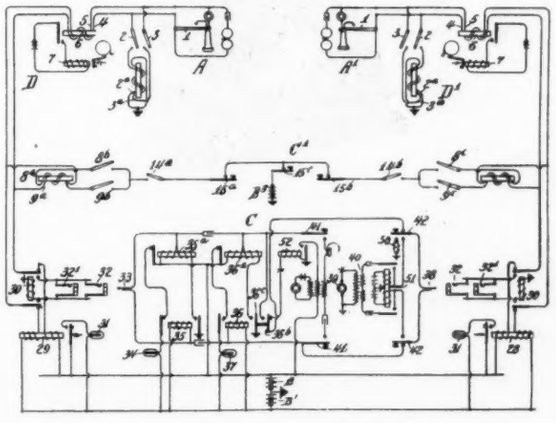
J. A. Hall, Oakland, Cal., patent 976,457, Nov. 22, 1910.

An antiseptic telephone mouthpiece; has an annular cylindrical chamber adapted for fastening at the outermost edge of the mouthpiece. A diaphragm is provided in connection with the cylindrical ring.

COMBINED TELEPHONE AND SERVICE SEYSTEM.

H. G. Webster, Chicago, Ill., patent 976,961, Nov. 29, 1910, assigned to Kellogg Switchboard & Supply Co., Chicago.

A combined telephone and telegraph system is adapted for use particularly with a common battery exchange where the subscriber's lines may also be used for telegraphic purposes. In operating the telegraphic mechanism, levers 2 and 3 are

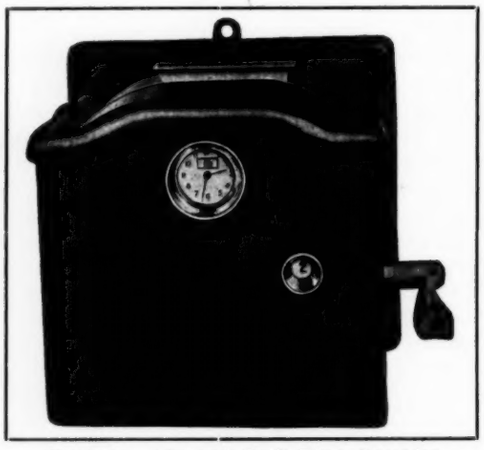


closed. The operator at *C'* closes levers 14*a*, 8*b* and 9*b*, whereby the high voltage battery $B^3$ will flow through the lines and through the windings 2*a* and 3*a* to ground. Current will thereupon also flow cumulatively through the windings 4 and 5 of the magnet 6 and will thereupon operate the relay 7, whereby its armature is attracted to bring the printing telegraph service into condition for operation. When talking, the levers 2, 3, 8*b* and 9*b* are open and the telephone circuit is then of the ordinary type.

# Manufactures and Sales

### Stromberg Electric Company Will Soon Put Out Quarter-Minute Time Stamp.

The minute time stamp manufactured by the Stromberg Electric Company, of which Alfred Stromberg, the well known telephone inventor, is the head, has been upon the market for some time. Now the company is getting ready to take care of its telephone business to better advantage by putting out a



Stromberg "In and Out" Time Recorder.

quarter minute stamp. This will make the instruments adaptable to toll board service.

One of the company's specialties now on the market is a recording stamp known as the "in and out" card time recorder, for keeping an accurate record of the arrival and departure of employes. It affords an accurate, economical, and convenient method of accomplishing this result.

The company has, as is well known, a master clock by which any or all of these various types of time stamps for

Stromberg Time Stamp.

the several purposes may be operated from one source of control, making it possible to have uniform records throughout different parts of the exchange, office or factory where the stamps are used.

### Plans to Make Boston's 1912 Electrical Exposition Best Ever Seen Already Being Worked Out.

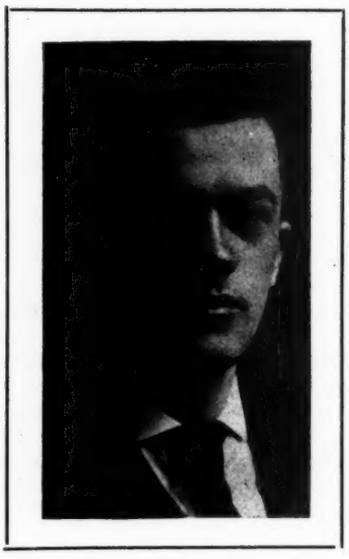
Mr. L. D. Gibbs, superintendent of advertising for the 1912 Boston Electric Show, is already hard at work carrying out plans to make the exhibition, as he says, "the biggest and most important electrical exposition ever seen." It will be held under the auspices of the Edison Electric Illuminating Co. of Boston, and the entire Mechanics Building has been arranged for to house it, with an exhibit floor space of 105,000 square feet.

In a letter to TELEPHONY Mr. Gibbs says: "We are making a general search throughout the world for information concerning the use of electric light or power in every trade, industry, field of manufacture—in every vocation and avocation. We hope to do this largely by consulting the advertisements in the most important class of publications. We want to get this information into such shape that it will be possible for us to arrange for the display of appliances, and show every method and use of electric service."

In this effort he asks the help of TELEPHONY's advertisers.

### New Chicago Manager for American Electric Fuse Co.

Mr. Fred B. Bonde, sales manager in the Chicago district



Mr. Fred B. Bonde.

for the American Electric Fuse Co., of Muskegon, Mich., has established headquarters at 290 Fifth avenue, room 900, in the Vogue building, his telephone number being Harrison 1143.

At this address Mr. Bonde carries a complete sample line of "Blue Ribbon" Telephone Protectors, "Allen-Bradley" Motor Starters, Controllers and Battery Charging Rheostats, "American" Enameled Magnet Wire and "Americoil" Ignition Apparatus.

Mr. Bonde has recently been transferred from the St. Paul district, and has every expectation of establishing a new sales record for the American Electric Fuse products in Chicago and the territory tributary.

### M. W. Dunton Co. Changes Cleveland Agency.

The M. W. Dunton Co., of Providence, R. I., announces a change in its Cleveland agency. The output of this firm has hitherto been handled by the Foote-Howard Co., which is now succeeded by Mr. R. S. Mueller, 423-425 High avenue, S. E., Cleveland, Ohio. Mr. Mueller is carrying a consigned stock of the M. W. Dunton Company's goods for emergency shipments and will henceforth have entire charge of that company's Ohio business and will cover the state in its behalf. The company bespeaks for Mr. Mueller the patronage which has been accorded its former agency, and expects to record a very considerable increase in business.

# Condensed News Reports

**Officers of companies are earnestly requested to forward us promptly all financial and other statements as soon as issued and any items of interest as to their plants and systems**

## PERSONAL.

MR. SCOTT McKINNEY, who for some time past has been connected with the Charleston (Texas) Telephone Co., has purchased the exchange systems located at Bagwell and Blossom, Texas.

MR. H. E. DAVIS, who, as superintendent of operation and equipment of the Topeka Independent Telephone Co., has cooperated with General Manager Hemphill in conducting the work of this important system at a high efficiency, has just been appointed superintendent of the Home Telephone Co. at St Joseph Mo. This change may be considered as in the nature of a promotion and transfer and not a change of business affiliations, as both the Topeka company and the St. Joseph company are members of the Gary System.

Mr. Davis is an earnest and enthusiastic telephone man whose progress has been wholly due to his ability to "deliver the goods." Personally he is a man who merits the co-operation and respect of his subordinates as well as superior officials. He has many friends throughout the field who have become acquainted with him through his attendance at conventions, and occasional contributions to TELEPHONY.

## NEW COMPANIES.

KERMAN, CAL.—The Vineland Telephone Co. has been incorporated by residents of Kerman and surrounding territory with a $25,000 capital stock in 1,000 shares, with J. C. Ashlin, Willfred Baker, R. S. Elliott, P. H. Carlsgard and N. O. P. Synoground as the directors. The corporation will at an early date erect a telephone line for the general accommodation of the farmers in the Kerman district from the town to and beyond the river. The main line will cover six and one-half miles from the southeast corner of section 12-14-18 in a northerly direction to the northeast corner of the southeast quarter of 12-13-17. It will have eight branch lines in as many directions covering ten miles more to nearly ranch subscribers.

CARROLLTON, GA.—The Garrisboro Telephone Co. has been chartered with a capital stock of $25,000. L. C. Mandeville, J. C. Bass, L. K. Smith, J. G. Cheney, E. M. Bass, J. L. Guill and C. M. Tanner, of Carrollton; J. M. B. Hoxsey, of Atlanta; W. B. Trewick and W. K. Holmes, of Cedartown, and R. B. Leonard, of Dallas, Ga., are the incorporators.

HENRYVILLE, IND.—At a mass meeting of business men of that town, steps were taken toward the formation of a co-operative telephone company.

ALLERTON, IA.—W. T. Grimes, R. Z. McCoy and B. Braceville are the incorporators of the Allerton Telephone Co. Capital stock $10,000.

DES MOINES, IA.—The Boardman-Wagner Telephone Co., of Elkader, has been incorporated by Amund Larson, Jacob Eggiman, William Huebner, Henry Korsch and others. The company has a capital of $1,600.

WAVERLY, IA.—J. J. Becker, Herman Brandt, W. E. Steeger, F. H. Meyer, and others, are the incorporators of the Washington Rural Telephone Co. The capital is placed at $6,000.

PRESTON, KANS.—At the recent meeting of the Mutual Telephone Co. reports showed the financial increase very good. The collections for the year amounted to $1,905.85, expenditures, $1,969.34. There was a cash balance of $181.64 from the previous year.

OGDEN CENTER, MICH.—The Ogden Mutual Telephone Co. has been chartered by the secretary of state. The incorporators are C. E. Arnold, Ira Ashley, B. W. Baker and others. The company is chartered to run for a term of 30 years. Capitalization is $5,000 with $3,725 paid in. Par value of shares $25.

ROSEAU, MINN.—A meeting was held at the Vinaas schoolhouse for the purpose of organizing a farmer's telephone company to extend from Roseau to points in this vicinity. Secretary N. E. Weld is circulating a list to obtain subscribers.

BIRDSALL, N. Y. (Allegheny Co.).—The Cawaseraga, Jersey Hill and Birdsall Telephone Co. has been incorporated and chartered with a capital of $540. Directors for the first year are: William Manning, Henry McMahon, John Clancy, Thomas F. Riley, John S. Bardwell, A. L. Franklin and Timothy Sullivan, Birdsall, N. Y. Value of property to be used in the state is not to exceed $1,500. The attorney incorporating was J. S. Phillips, of Andover, N. Y.

COLLINS, N. Y. (Erie Co.).—The Zoar Telephone Co. has been incorporated by Lynn W. Shipman, Albert A. Gainsler, A. L. Anderson, Frances C. Granssler, Jacob H. Schaach, M. G. Shipman, of Gowanda, and C. Mugridge, of Codins Center, N. Y., who are directors for the first year. The company carries a capital stock of $1,250, par value of shares $50.

ASHLAND, OHIO.—An increase of $50,000 in the capital stock of the Star Telephone Co. has been recently filed. The total capital is $150,000.

HARLEYSVILLE, PA.—A charter for the Douglass Telephone Co. was filed in the Recorder of Deeds office. This new company will operate a telephone line in Douglass township, with Sassamansville as the principal place of business. Owen K. Schultz, of Barto, is treasurer of the new company. The authorized capital stock is $5,000.

HATBORO, PA.—The County Line Rural Telephone Co. has been organized to operate throughout the district surrounding Hatboro. Fred Gense, of Horsham, has been elected president and O. H. S. Maurer, secretary. The central exchange will be located in Hatboro.

HITCHCOCK, S. D. (Beadle Co.)—The County Line Telephone Co. has been incorporated by Andrew Olson, Christ J. Gross, Ed Stitt and Paul P. Stahl. The company is capitalized at $25,000, par value of shares $40.

PIERRE, S. D. (Hughes Co.)—The Great Eastern Telephone Co. has been incorporated and chartered by the secretary of state. The capitalization of $100,000. Frank B. Rowe, E. H. Wood, and S. C. Polley, all of Pierre, are the incorporators.

MISHICOT, WIS.—The Michicot Telephone Co. has been incorporated by A. Hoist, August Rhode, P. Boniller, Febian Crelton and August Chochnet. The capital stock is placed at $2,600.

## FINANCIAL.

FOREMAN, ARK.—A new telephone system, to include Miller, Little River, Sevier, Howard and Polk counties, has been chartered under the name of the Foreman Telephone Co., with headquarters at Foreman, Ark. The incorporators are A. Goldsmith, John H. Hawkins, A. B. Killian and A. J. Kizer. The capital stock of the company is $10,000, all of which is subscribed.

BOONE, IA.—The Boone County Telephone Co., it is reported has announced a raise of telephone rates to be effective after January 1. Three dollars per month will be charged for individual lines and $2.50 per month for party lines.

BREWSTER, OHIO, (Stack Co.)—The Brewster Telephone Co. has been chartered by the secretary of State with an authorized capital stock of $5,000, par value of shares $50. Incorporators are E. F. Calaway, C. P. Bradford, Clay McClurg, H. L. Darman, and W. H. Keller. Attorney incorporating is W. R. Irwin, of Akron, O.

HURON, OHIO, (Erie Co.)—The Huron Telephone Co. has filed an amendment to its charter, showing increase of capital stock from $10,000 to $40,000. C. M. Ray is president and E. E. Parker, secretary.

BRISTOL, WIS.—An amendment has been filed to the charter of the Bristol Telephone Co., increasing the capital stock from $8,000 to $16,000.

## CONSTRUCTION.

ANDALUSIA, ALA.—The Andalusia Telephone Co. will spend nearly $10,000 in installing a most modern telephone system in Andalusia. The new switchboard will provide for 600 telephones and numerous country lines besides.

NEVADA CITY, CAL.—Some of Nevada merchants, having interests in Grass Valley, are reported as contemplating the installation of a private telephone line between these two points.

WYANDOTTE, MICH.—The Detroit River Telephone Co. reports that the work on its Wyandotte and Trenton exchanges will be completed as soon as possible. The cement floors will be put in as soon as weather conditions permit, and the equipment is all ready for installation.

NAPER, MONT.—Mr. Smith, owner of the Farm & Home Telephone Co., has reported that in the spring he will make many improvements to his system. Many new poles will be placed and the lines rebuilt.

BUXTON, N. D.—The Red River Valley Telephone Co., according to reports, will consider the proposition of raising its capital stock from $100,000 to $200,000. This company operates extensively throughout the rural district in this section.

HETTINGER, N. D.—A farmers' co-operative telephone company is being organized, it is reported, for the purpose of building a line south from Hettinger through Bison, the county seat of Perkins county, and other towns in that part of the state. Considerable interest is being taken in the project by the people of the different towns. Most of the towns affected are off the railroad, and the proposed direct communication with the outside world will be welcomed.

KEYSVILLE, PA.—The Ontario Telephone Co., recently reorganized, and of which Henry Whiteside has been made general

manager, will reconstruct some its lines and will install a new thirty-drop switchboard and about 20 new telephones.

CROSBYTON, TEX.—Finley McDonald, manager of the Crosbyton Telephone Co., is rebuilding the telephone lines to Lubbock. The work of rebuilding in Crosbyton has been going on for some time and is about finished. When the rebuilding of the line to Lubbock is finished the line to Floydada will also be rebuilt. The contract for putting in the new poles between Crosbyton and Lubbock has been awarded to T. A. Cartwright.

WEBSTER, TEX.—The Tri-City Telephone Co., recently incorporated by J. W. Thompson and others, will construct 30 miles of telephone line, connecting Friendswood, Webster and League City, Tex.

OTTAWA, CAN.—The Wright & Pontiac Telephone Co., composed of residents of Eardley, Que., which obtained its charter from the provincial government last June to construct a telephone system in the counties of Wright and Pontiac, have almost completed the construction of the system between Aylmer, Eardley and Quyon. Notary Lacourisier, of Maniwaki, has also constructed a telephone service between that point and Riviere Joseph, a distance of eight miles.

SHERBROOKE, QUE., CAN.—The People's Telephone Co. is building a new telephone line from Sherbrooke to Stanstead. This line is to be completed by the end of this month. It has been leased by Mr. F. W. White, a stockholder of Sherbrooke, for a term of years at a consideration of about $400 per annum. The patrons of the People's system will have the exclusive use of it from 9 a. m. until 3:30 p. m. The company contemplates the construction of a line from Sherbrooke to Coaticoke in the near future.

## ELECTIONS.

LIBRARY, ILLS.—The stockholders of the Bethel Telephone Co., Inc., held their annual meeting recently and elected the following board of directors: W. T. Philips, M. D., S. L. Boyer, J. P. Wilson, Wm. F. Hammel, W. J. Anderson, O. C. Simmons and Henry Klenzing, all of Library. Immediately after the stockholders meeting the directors elected the following officers: President, W. T. Philips, M. D.; vice president, S. L. Boyer; secretary, J. P. Wilson; treasurer, Wm. F. Hammel. At the regular meeting of the board of directors in November, a semi-annual dividend of 3 per cent was declared.

FT. WAYNE, IND.—The Home Telephone Co. has re-elected its old board of directors and officers. They are: Charles S. Bash, president; J. B. Ruess, vice president; William L. Moellering, secretary and manager, and Max B. Fisher, treasurer. The company, which is a home institution, starting fourteen years ago with 800 subscibers, now has 6,325 subscribers in Ft. Wanye, and owns one thousand miles of toll lines.

LINCOLN CENTER, IA.—The annual meeting and election of officers of the Buck Creek Telephone Co. was held at the Salem school house recently. The officers elected were: Henry M. Myers, president; H. D. Ellis, secretary and treasurer, and W. L. Annan, trustee.

BANFIELD, MICH.—The following officers were elected to serve the interests of the Banfield Telephone Co., for another year: President C. H. Palmatier; vice president, Delos Neil; secretary D. C. Stiles; treasurer, A. M. Edmunds; manager, George Winters; member auditing committee, C. E. Moore. The receipts of the company for the past year amounted to $1,524.76 and the expenses were $1,253.80.

AITKEN, MINN.—C. P. De Laittre was elected president of the Aitken-Deerwood Telephone Company at the annual meeting of the directors a short time ago.

WADENA, MINN.—The stockholders of the Blue Grass Telephone Co. held their annual meeting a short time ago and elected the following officers: J. M. Dorn, president; Henry Nelson, vice-president; B. O. Knudson, secretary and treasurer; Jens Johnson and Max Kern, trustees.

BOWERSTON, OHIO.—The Crescent Telephone Co. had its annual meeting and the following officers were elected for the ensuing year: President and general manager, C. E. Brooks; vice president, C. S. Heavlin; secretary, Jas. A. McKean, and treasurer, H. W. Penn. Directors are John Scott, Dr. C. S. Clark, S. J. Hathaway, C. S. Heavlin, J. A. McKean, H. W. Penn and C. E. Brooks. The company is doing a very nice business and has been extending its lines to meet the demands for service.

PITTSTON, PA.—The officers of the Commonwealth Telephone Co. were re-elected by the directors for another year at the annual meeting. They are: President, John H. Foy; treasurer, M. L. Perrin; secretary and manager, W. D. Gray. Reports of the officers showed that the business had increased 25 per cent over that of the preceding year.

## MISCELLANEOUS.

CARLYLE, ILL.—Mr. Beckmeyer has purchased the Independent system of Clinton county for a consideration of $34,000.

HUTCHINSON, KANS.—The Independent line operating between Medora and Buhler, formerly owned by the Burns system, has been sold to a local company headed by R. E. Calbert and H. J. Pickens of Medora.

FRANKFORT, KY.—The Court of Appeals of Kentucky recently reversed the case of W. C. Yeiser of Daviess County, Ky., against the Cumberland Telephone & Telegraph Co. Mr. Yeiser, according to the verdict of a Daviess County jury, was awarded $1,755 damages for injuries received when his horse became frightened at an automobile driven by servants of the Cumberland company. The appellate court, however, decided that there was no evidence of injury resulting to Yeiser from negligence on the part of the telephone company's servants and the jury in the lower court was instructed to find for the defendant.

PELICAN RAPIDS, MINN.—Mr. C. L. Alexander has purchased the Parkers Prairie telephone exchange and will take possession at once.

BUNCETON, MO.—A controlling interest in the Bunceton Telephone Exchange was sold recently by Crockett Hickman to H. Harrison Simpson of the Enterprise Telephone Co. The Enterprise telephone system with headquarters at Pilot Grove has made a very rapid growth during the past few years and has fully developed its present territory in the western part of Cooper County. The purchase made by Mr. Simpson this week will enable the Bunceton exchange to be made a part of the Enterprise system in the near future, and thereby greatly extend the usefulnss of both systems as well as make a saving in the construction and management.

OXFORD, N. Y.—C. H. Church, receiver of the Oxford Valley Telephone Co. has been authorized to sell the Oxford company's system to the J. B. Marquis Co. of Norwich for $6,500. The Marquis Co., it is understood, will reconstruct the system.

DAYTON, OHIO.—According to reports the Home Telephone Co. has so far this year made a gain of 1,000 contracts for service.

PORTSMOUTH, OHIO.—The Home Telephone Co., which had five cables destroyed in an express car fire recently, putting 1,700 telephones out of commission has completed the repairs on two of the cables, giving service to Wheelersburg, Sciotoville, New Boston, the Terminals and several other eastern points. It is expected that the other three cables will be ready for service soon. The loss to the company was approximately $4,000.

CHAMBERSBURG, PA.—The switchboard of the American Union Telephone Co. was destroyed by fire recently. The loss to the company is placed at $15,000.

DRESDEN, TENN.—Telephone and telegraph companies suffered damage to lines and service on account of a severe snow storm accompanied by high winds.

PORTLAND, TENN.—The Sumner County Home Telephone Co. has completely overhauled its cable plant in Portland. The company has at present 470 subscribers, and prospects for getting new business are very bright.

BURNETT TEX.—The entire system of the Smart Telephone Co., owned by the late Jno. M. Smart, has been purchased by Mr. G. P. Lester, of San Angelo. The consideration for the system is $5,000. It covers Burnett and many interior towns of Burnett county, reaching out into the surrounding territory.

GUANAJUATO, MEX.—George W. Bryant and associates, who recently secured a telephone concession from the state government of Guanajuato, Mexico, have transferred the franchise to the Compania Telefinica de Guanajuato, S. A., which has a capital stock of $900,000. The concession consists of the right to construct a long distance telephone system and local exchange in the state of Guanajuato. The stockholders of the new company are: Fernando Pimentel y Fagoaga, president of the Mexican Central Bank of the City of Mexico; Jose P. Bustamante, George W. Bryant, Juan Castelazo and Martin Garza. Mr. Pimental is president and Mr. Bustamante, vice president. The company will soon start the construction of several hundred miles of long distance telephone lines, which will branch out from Guanajuato in all directions, extending to many towns and mining camps of the state.

## UNDERGROUND.

ROME, N. Y.—The Rome Home Telephone Co. has made application to the city authorities for permission to build a subway in Washington St. to do away with the poles and wires. This company will start reconstruction of its system in the spring, expending between $50,000 and $65,000 on the work.

## Arranges to Purchase Illinois County Telephone System from Stockholders on Installment Plan.

Former Representative H. J. C. Beckemeyer, of Carlyle, Ill., who recently assumed the general management of the Citizens' Telephone & Telegraph Co., operating in Clinton county, has taken over the entire ownership under a rather unique plan. The company has not been making money and Mr. Beckemeyer soon discovered that fact. He, therefore, made a proposition to the stockholders in which he offered to pay for the stock valued at $16,000 and assume the bonded indebtedness of $18,000, making a consideration of $34,000 in the deal. The payments are to be made in annual installments, but the purchaser reserves the right to pay all in cash if he so desires. The directors of the company accepted his offer and the sale will be ratified by the stockholders.

Don't wait for the man ahead of you to die or be promoted or discharged before you learn his work. Learn it while you don't have to do it. Then, when the vacancy occurs, you are obviously the man for the place.